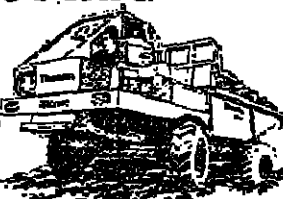


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## Call for Ulster firemen to quit

Part-time firemen who man all of Northern Ireland's stations outside Belfast and Londonderry are being recommended to resign en masse.

Delegates representing the 788 men made the call after an unsuccessful 2½-year campaign to have the Retained Fire-fighters' Union recognised by the employers.

A ballot will take about two weeks to complete, but the recommendation is expected to win overwhelming backing.

If the firemen do quit, the Army will probably take over Ulster's fire cover, using elderly Green Goddesses that were brought out of storage during the national firemen's strike three years ago.

### Minister held

Iraqi forces have captured Mohammad Ali Fadl Tondogyan, the Iranian Oil Minister, the official news agency in Baghdad said.

### 'Mole' accuses

Dougal Mackenzie, the British Steel Corporation "mole" who leaked documents to Granada Television, accused BSC of provoking the national steel strike in order to speed up plant closures.

### Fianna Fail split

Spills within the Irish Government party, Fianna Fail, became evident when Premier Charles Haughey denounced an attack on Mrs. Margaret Thatcher by Miss Sile De Valera, one of the party's MPs and a granddaughter of its founder.

### Heathrow mystery

Airport security chiefs were trying to discover how a light aircraft stolen in Buckinghamshire managed to land unobserved at Heathrow during darkness.

### Seaman can stay

Soviet seaman Boris Gavrilov, who jumped ship in London, has been granted temporary political asylum and can stay in Britain for a year.

### Polish deadlock

Polish authorities refused to sign a communiqué after talks with the country's largest independent trade union, although the Premier repeated his verbal assurance that all pledges would be honoured. Page 3

### Cheap sport call

Local authorities are being asked by the Central Council for Physical Recreation to offer the unemployed, particularly youngsters, off-peak cheap rates at publicly-owned sports facilities.

### 'Goodwill' move

Kurt Waldheim, the UN Secretary-General, has invited Greek and Turkish leaders to a meeting in New York this month to discuss "goodwill measures."

### 'Free prisoners'

Amnesty International, the human rights pressure group, called on the United States to release all prisoners of conscience of the country and to halt torture, floggings and executions.

### Still going strong

An 1808 Rochet triplede was first to cross the finishing line in the annual London to Brighton veteran car rally. It took 2 hours 5 minutes.

### Briefly...

Fire at a Polish mental hospital killed 49 patients.

Princess Michael of Kent, 34, is expecting her second baby in April.

East Germany and Zimbabwe established diplomatic relations.

## BUSINESS

## Big drop in Iran's UK bank deposits

IRANIAN deposits with London's big clearing banks have been cut by about two-thirds in the last year to £300-£400m. Bankers say many loans are being serviced in arrears, and fear £200m in loans to Iran may be irrecoverable. Back Page

ECONOMIC growth should recover strongly in 1982 — after another 12 months of falling output, the London Business School Economic Outlook says. Page 6

NORTH SEA gas gathering pipeline costing £1.1bn could be started by a group of banks, ensuring production from British steel. Back Page; ethane route dispute, Page 4

ICI is expected to sign a multi-million pound deal allowing it to sell a wide range of chemicals to the Soviet Union. Back Page

BUILDING and civil engineering companies' overseas earnings fell 20 per cent to £1.2bn in the year to April. Page 4

Seamen claim strong support for stoppage. SEAMEN'S union claimed overwhelming support for today's 24-hour strike over Cunard's plans to sail some ships under flags of convenience. Page 8

BL CARS' shop stewards decide today whether to recommend a strike in pursuit of a 20 per cent pay claim. The company has offered 6.8 per cent. Back and Page 7

POWER WORKERS' shop stewards decided on a 20 per cent pay claim. Back Page

CIVIL SERVICE unions are likely to seek a court ruling to secure pay increases. Unofficially, pay increases for 550,000 white-collar staff. Page 8; pay roll cuts, Page 7

CENTRAL BANKS in Germany, France and the Netherlands gave support to the D-mark last week to prevent it falling outside the agreed limits of the European Monetary System. The German currency was at its lowest intervention point against the French franc and Dutch guilder. Switching into dollars and sterling, attracted by high interest rates in New York and London, was behind the D-mark's weakness, coupled with Germany's large balance of payments deficit.

The Belgian franc also touched its floor against the guilder and French franc on Friday but was not under heavy pressure despite some intervention by the Belgian National Bank. The Italian lira remained the weakest member of the system, although well within its extended divergence limit. The French franc was the firmest member of the EMS earlier in the week, but was overtaken by the guilder on Thursday.

Both sides agreed that the final ballot could be decided by only a handful of votes. Mr. Healey was still just hanging on to his position as favourite but, as the count for second-choice votes began, supporters of Mr. Foot claimed to be making ground.

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## President considers Tehran's conditions for freeing hostages

BY JUREK MARTIN IN WASHINGTON AND PATRICK COCKBURN LONDON

PRESIDENT Jimmy Carter broke off campaigning for tomorrow's election and returned to the White House yesterday to consider the terms agreed by the Iranian Parliament for the release of 52 U.S. diplomats held hostage in Iran in the last year.

The Majlis, Iran's parliament, finally decided to reaffirm officially an expanded version of the four conditions originally mentioned by the Ayatollah Khomeini, the country's revolutionary leader, at the beginning of September.

These are that the U.S. Government should promise not to intervene in any way in Iranian affairs, to unlock frozen Iranian assets, drop other forms of economic aid and legal claims and return the assets of the Shah and his family.

It appears that the release of the hostages may be closely tied to the pace at which the U.S. Government fulfils the Iranian demands.

Mr. Carter convened a morning session with Mr. Walter Mondale, the vice-president, Dr. Zbigniew Brzezinski, the national security adviser, and Mr. Edmund Muskie, the secretary of state.

After the morning meeting Mr. Jody Powell, the Press Secretary, said the President

needed more "information" before making a decision on the Iranian conditions. "The obvious gravity of the situation requires deliberate and careful consideration by the President," Mr. Powell said.

Later, in a television interview, Mr. Muskie reiterated U.S. willingness to end the year-long impasse with Iran. But he noted that the official Iranian position apparently due to be clarified in a Government statement today could vary from what was passed by the Majlis yesterday.

All we've got are unofficial reports," he said. "An official version of the Iranian demands in Farsi (Persian) and English is being drawn up in Tehran. Some aspects of the terms as released by the official Iranian news agency are still unclear."

The fact that the deputies did not in the event add anything to the conditions for release which the Ayatollah Khomeini

### IRAN'S TERMS FOR RELEASE

1.—A promise by the U.S. Government not to intervene politically or militarily in Iran.  
2.—Unfreezing of all Iranian assets inside and outside the U.S. and their return to Iranian control.  
3.—An end to all "economic and financial" actions against Iran and the cancellation of all legal claims against Iran.  
4.—The return of the Shah's fortune to Iran.

had announced was taken in Tehran as an indication that the Government of Prime Minister Mohammed Ali Rajai wants the issue settled.

Nevertheless, the parliamentary commission which has drawn up the terms under which the hostages will be released said the U.S. must not only accept but must act to carry out the conditions before the hostages are released. This could lead to a phased release.

In cases of the fulfilment of some of the conditions needs more time," the commission said, "given the acceptance of all the conditions by the American Government, in exchange for the fulfilment of each condition some of these offenders (hostages) will be released." It added that the (Iranian) Government.

A Gallup poll for Newsweek magazine puts him ahead by 41 to 44 per cent but qualifies this finding with the stipulation that if the poll is limited to those most likely to vote, Mr. Reagan holds a one-point edge, 44 to 43 per cent.

The Sindinger poll gives Mr. Carter the edge by less than one half of one per cent. The election, however, is determined not by the national vote but by the mathematics of the Electoral College. Whoever wins a given State gets all that State's votes in the college, ranging from the 45 for California down to three for the five smallest states. There are a total of 538 electoral college votes, meaning that 270 are needed to become the next President.

In this context, the New York Times survey gives Mr. Reagan 98 solid votes, with another 137 leaning in his direction. Mr. Carter is given 89 certain and 56 probable States with a total of 158 votes.

The Washington Post state-by-state poll gives Mr. Reagan 22 states and 207 electoral votes, and Mr. Carter 15 states plus the District of Columbia, worth 183 votes. The remaining 168 are said to be too close to predict.

Of particular concern to Mr. Carter is the fact that his Southern base no longer seems secure. Surveys find him in danger of losing Virginia, South Carolina, Alabama, Florida, Mississippi, Louisiana, and, most important, in Texas.

Mr. Reagan, however, seems likely to capture most states in the Western half of the country. The one nagging doubt concerns his home state of California.

For the second ballot, the general view is that Mr. Healey should pick up more of Mr. Shore's votes than will Mr. Foot.

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## Polls give narrow lead to Carter

By Jurek Martin, U.S. Editor, in Washington

THE FINAL round of public opinion polls before tomorrow's Presidential election suggest that President Jimmy Carter can afford to lose hardly any of the big, marginal states if he is to stay in the White House for another four years.

The surveys do not, and cannot, take account of what public reaction will be to the possible release of the U.S. diplomatic hostages from Iran.

This new and real factor in tomorrow's voting, could benefit Mr. Carter. But it could also help Mr. Ronald Reagan if people believe that the President has manipulated the plight of the hostages to his own political end.

Two of this weekend's polls show Mr. Carter retaining the narrowest of leads in broad popular sentiment.

A Gallup poll for Newsweek magazine puts him ahead by 41 to 44 per cent but qualifies this finding with the stipulation that if the poll is limited to those most likely to vote, Mr. Reagan holds a one-point edge, 44 to 43 per cent.

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## Forecasters take gloomy view of next 12 months

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

BRITAIN faces another bleak 12 months of falling output and profits and sharply rising unemployment, but from 1982 onwards the economic outlook should be significantly better, the London Business School predicts this morning.

The Business School believes that, provided the monetary and public spending targets are met, the annual rate of consumer price inflation should decline to single figures by the end of next year and remain there, while from 1982-83 on there should be scope for income tax cuts.

Unemployment is, however, likely to continue to rise, though at a much slower rate than at present.

This gloomy view of the immediate outlook is shared by most other forecasters and is supported by the latest Financial Times business opinion survey, also published this morning.

The opinion survey — this month covering the non-electrical engineering, chemical and oil, and transport sectors — reports a sharp drop in new orders and recent deliveries.

But industry appears to be having some success in reducing levels of stocks and a few of the individual comments

reveal a feeling that the recession may soon reach bottom. The one clear positive point is the further revision downwards by companies of expectations about cost and price increases over the next 12 months.

Greater optimism about inflation in business opinion surveys and economic forecasts is probably the only comforting short-term factor for the Government.

There is, for example, agreement about the worsening prospects for public sector borrowing. But there is considerable dispute among the pundits about the extent of the problem, and hence about the size of any offsetting public spending changes and tax increases.

The Business School estimates that, on the basis of unchanged policies, public sector borrowing will be about £8.1bn in 1981-82, which will make achievement of the monetary target extremely difficult. In contrast, stockbrokers Phillips and Drew believe that borrowing could reach £12bn in 1981-82 even with £2bn of public spending cuts and a mildly deflationary Budget next spring.

Continued on Back Page  
FT Business Opinion Survey, Page 12

## Government accepts need for a higher deficit

BY SAMUEL BRITTON



## OVERSEAS NEWS

## Fraser announces Government changes

By Patricia Newby in Canberra

MR. MALCOLM FRASER, Australia's Prime Minister, yesterday announced a major reshuffle of his government after his win in the federal election on October 18.

Mr. Fraser's Liberal-National Country Party coalition has a 23-seat majority in the 125-seat House of Representatives.

Mr. Andrew Peacock, Foreign Minister for the past five years, becomes Minister for Industrial Relations and Mr. Tony Street, the former Industrial Relations Minister, takes over foreign affairs.

In other changes, Mr. Vic Garland, former Minister for Business and Consumer Affairs, has been appointed High Commissioner in London.

Mr. Peacock has indicated for some time that he would like a domestic portfolio. Successful handling of such a tricky ministry as industrial relations would certainly enhance his chance of inheriting the leadership of the Liberal Party from Mr. Fraser.

Although Mr. Peacock was beaten last week for the deputy leadership by the incumbent, Mr. Phillip Lynch, the Industry and Commerce Minister, he is still considered a possible threat to Mr. Fraser.

Political commentators believe that Mr. Lynch has risen as far as he is likely to and that the next challenge for the deputy leadership will see either Mr. Peacock or Mr. John Howard, the Treasurer, emerge victorious. Both men are 41.

New ministers are Senator Peter Baume (Aboriginal Affairs), Mr. John Moore (Business and Consumer Affairs), Mr. Michael Hodgman (Capital Territory), Mr. Tom McVeigh (Housing and Construction) and Senator Tony Messner (Veterans Affairs).

Patrick Cockburn examines the pressures behind Iran's move on the U.S. hostages

## The Majlis finally takes Khomeini's cue

BY DECIDING on the terms under which the 52 U.S. hostages will be released, the Iranian Majlis (parliament) has finally followed Ayatollah Khomeini's directive earlier in the year that it alone should deal with the fate of the hostages.

But it is unlikely that yesterday's proposals (see box) would have emerged without pressure from Ayatollah Khomeini's office and a change of attitude by the fundamentalist Islamic Republican Party (IRP) which claims a majority in the Majlis.

The proposals now put to the U.S. are virtually the same as those proposed by Ayatollah Khomeini on September 12. This allowed the IRP and other deputies to make relatively moderate demands without being denounced as quislings of the U.S.

While U.S. diplomats have continually complained that they have never been sure who had sufficient power in Iran to deliver the goods, yesterday's events show that the IRP does have such strength.

The problem for politicians inside Iran since the U.S. embassy was stormed a year ago has been that so many of them had used the hostage issue to rise to power.

The takeover of the embassy destroyed the Government of Mr. Mehdi Bazargan, Iranian President Abolhassan Bani-Sadr and the clerical fundamentalists of the IRP used the renewed militancy which followed the taking of the hostages to secure their positions.

This made it difficult for them to advocate any agreement with Washington and President Bani-Sadr badly damaged his authority when he attempted to do so in February.

The death of the Shah at the end of July removed the most emotive demand of the militant students who had distributed the hostages around Iran in the wake of the abortive raid by the U.S. to free them.

BEIRUT—The following is the English-language text of a list of conditions debated yesterday by the Iranian Majlis for the release of the 52 U.S. hostages in Iran. The list was distributed by Iran's Pars news agency.

"The Islamic consultative assembly, the Majlis, met this morning. The special commission on the hostages submitted their report to the Majlis. This report is based upon the proposals made by the Imam (Ayatollah Khomeini) on the subject of hostages. The proposals are as follows:

"1.—Due to the interference of the U.S. in the internal affairs of Iran, political, military, economic, the U.S. must now make a firm commitment to avoid all direct or indirect political and military inter-

ference into the affairs of the Islamic Republic of Iran.

"2.—Unfreezing all Iranian assets in and outside the U.S. These assets should be put at the disposal of the Iranian Government in order that we may utilise them in every possible way. The presidential order of November 14, 1979, which blocks our assets should be declared null and void by presidential order. Financial relations would continue as before this presidential order, with the removal of economic blocks and all consequent effects. All legal procedures must be taken to void the presidential order concerning the confiscation of Iranian properties by the U.S. courts. Guarantee the security and free transfer of these properties must be made. No

private U.S. citizen or resident of the U.S. may make a claim against these properties.

"3.—Cancellation and annulment of economic and financial actions and measures against the Islamic Republic of Iran must be made. Legal procedures should be implemented to cancel and annul all claims against Iran. These claims might be presented by an official or unofficial citizen, an American company or the American Government. In the case of any type of claim made against Iran or any Iranian citizen, in any court of the United States in connection with the Islamic Revolution of Iran and the seizure of the most of spies (U.S. embassy) and the arrest of U.S. citizens in Iran, the U.S.

Government should guarantee to answer and pay any consequent damage or expenses caused by the conviction of Iran or any Iranian citizen.

"4.—The properties of the deceased Shah must be returned. The United States Government should officially recognise the right of the Iranian Government to the deceased Shah's wealth and that of his close relatives. According to Iranian law, these properties belong to the Iranian nation and Iran should be able to control them. The President of the U.S. should issue a proclamation to this effect, and take all legal and administrative actions necessary to transfer these properties to Iran."



Ayatollah Khomeini... still dominant

gathered outside the U.S. embassy. Only the beginning of the war with Iraq forced them into the political background.

The retention of the political initiative by the militant students was partly a result of the division of authority in Iran between different power centres. The President and the IRP were at one stage unable to agree a prime minister or a cabinet. Only when the Premier, Mohammed Ali Rajai, was elected, did the fundamentalist clerical leaders feel strong enough to tackle the hostage issue.

They are aware now that the hostage issue, so useful to them in the past, could be used by their enemies. The appearance of Ayatollah Khomeini, Iran's hanging judge, made good television when he was seen last week, bereft of turban at the rostrum in the Majlis building, denouncing deputies who had boycotted the debate on the hostages' release.

But more important has been



Ayatollah Beheshti... studied moderation

the studied moderation of IRP leaders such as Ayatollah Beheshti, the speaker of the Majlis, Hojatoleslam Hashemi Rafsanjani, and Mr. Hassan Ayat, none of whose names excite much interest in the

West. Why have they moved so quickly now?

The war with Iraq certainly gave much of the leadership in Tehran a sense of their own isolation. It is doubtful that the delivery of U.S. spare parts will make much difference to the Iranian war effort, though it is clearly possible that Iranian politicians and generals will think that it will.

The crucial problem which President Carter will have most difficulty in resolving is that of the Shah's fortune and the frozen Iranian assets in the U.S. Popular feeling in Iran is that the Shah and his family salted away much of Iran's wealth.

Ordinary Iranians mention a figure of \$32bn or more and it will be difficult for political leaders in Tehran to explain to them that not only are they not going to get any of this but that the assets which the U.S. Government admits belongs to Iran will be difficult to extract from a tangle of legal claims and court proceedings.

This puts the leading clerical figures in the IRP in a difficult position. Having publicly associated themselves with pushing through the Majlis the conditions under which the hostages will be released, they are politically vulnerable in Tehran if they cannot soon show that they have got most of what they asked for.

The final resolution of the hostage crisis may once again require the intervention of Ayatollah Khomeini

## Carter may find Iran's demands hard to meet

BY JUREK MARTIN, U.S. EDITOR IN WASHINGTON

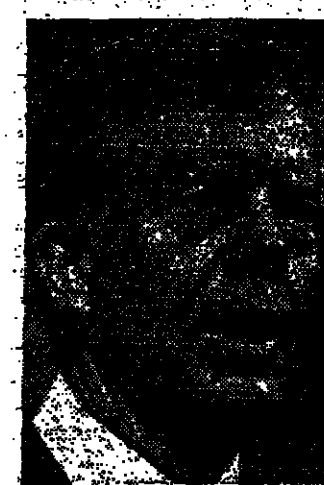
PRESIDENT JIMMY CARTER can meet only one of the four demands for the release of the U.S. diplomatic hostages, laid down by the Majlis without difficulty or delay. Fulfillment of the other three is neither practically nor legally straightforward and may require some understanding on the part of the Iranian authorities.

Clearly no problems exist in the President pledging non-interference in Iranian internal affairs. With the stroke of a pen, he could announce the estimated \$30n worth of Iranian assets he looked up nearly a year ago by Presidential fiat, but the swift return of anything like the full amount to Iran is almost certain to be mixed in a profusion of legal claims.

Locating and releasing the assets of the Shah and his close relatives is no easy matter either. While President Carter is able to cancel the trade embargo he imposed on Iran, he has no authority to deal with the second part of the demand, to stop private lawsuits against Iran. If, as is widely assumed, the Shah's wealth has been widely dispersed around the world, the President has no jurisdiction to order its return. No precise inventory has been drawn up of the disposition of the Shah's assets, though rough estimates could be quickly obtained.

Mr. Edmund Muskie, the Secretary of State, stressed in a TV interview yesterday that it was still not clear exactly what Iran was asking for. On the question of the Shah's assets, for example, he said it was not known whether Iran was demanding "confiscation" or simply "identification"—implying, of course, that the latter was much easier to meet.

But he repeated what he has said many times before: "If they undo what they did, we'll undo what we did" in the freezing of assets, the imposition of trade sanctions and the condemnation of the hostage taking in every possible international forum. U.S. officials were, however, drawing some encouragement from the signs from Tehran that Iran wants to move to settle the hostages issue. The determination of the hard-line



President Carter... authority limited

Islamic Republican Party to at least get negotiations in train before the U.S. Presidential elections tomorrow is one positive harbinger.

In a TV interview yesterday, Mr. Sadeq Qotbzadeh, the former Foreign Minister, also indicated that Iran was prepared to be flexible on the key points. Although he speaks with no authority these days, the U.S. hopes that the familiarity of Mr. Qotbzadeh and others with the U.S. legal and constitutional system may have filtered down to those in Iran who had previously been uncompromising.

There is, however, great reluctance here to discuss another aspect of any deal with Iran—the possibility raised by the Majlis that the hostages would only be freed in groups, the release of each group being contingent on U.S. compliance with each of Iran's terms.

At a Press conference on Saturday, Mr. Muskie was at pains to suggest that the actual negotiations with Iran could take some time. One key element in such bargaining is the military component of the frozen Iranian assets. The U.S. is clearly unwilling to be seen to "tilt" too sharply to Iran in its present conflict with Iraq. It would prefer not to release all the \$500m worth of spare parts and equipment at once, but only to agree to ship the least sophisticated offensive weaponry.

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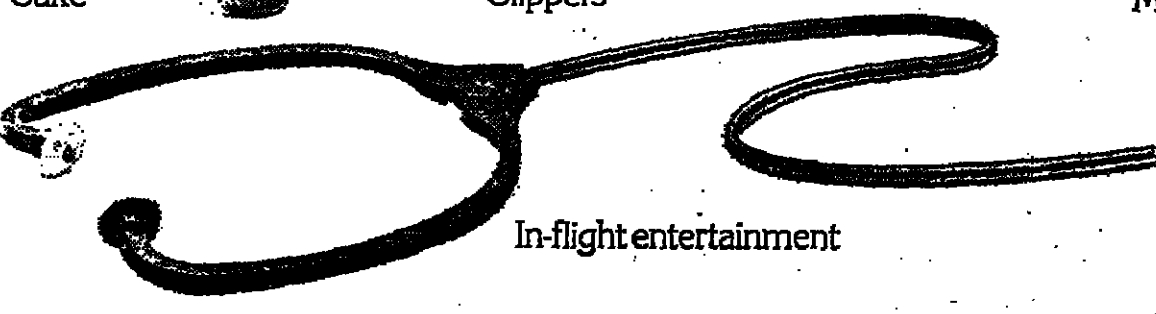
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JAPAN AIR LINES

## Israel plans warplane sales to Mexico

BY DAVID LENNON IN TEL AVIV

Israel is planning to invite representatives of Latin American countries to Israel to study the purchase of the Kfir combat aircraft now that the U.S. has lifted its four-year ban on sales of the aircraft to Latin America.

Last week, it was revealed that the U.S. State Department had given Israel permission to offer the Kfir to Mexico, which is also considering the U.S. made F-5E fighter. There have also been unconfirmed reports that Colombia is interested in the Israeli aircraft.

The American veto derived from the fact that the Kfir is powered by the U.S.-made General Electric J-79 engine. At the time of the ban, Washington said it opposed the re-export of sophisticated American military technology to Latin America.

The American change of heart "could open big horizons" for Israel's defence industries, according to Mr. Mordechai Zippori, the deputy Defence Minister. Israel is, however, concerned that the publicity given to the decision could expose potential customers to counter pressure from Arab states and U.S. aircraft manufacturers.

Mr. Mugabe was said to have made the threat when he addressed a meeting of black tribesmen in the Mount Darwin area of north-east Zimbabwe. He accused Britain of failing to meet its pre-independence promises to provide funds to compensate white farmers for any of their land taken over.

He said his government wanted farmers to surrender some of their land and would have to look to Britain for compensation "because we have no money to pay them and do not feel inclined to pay for land plundered from the indigenous people by the colonisers."

Although the government has started on its own programme of land re-distribution and resettlement using its own funds as well as aid from overseas, expectations of more and better land are high among the rural population.

Last month it was announced that £20m of the British aid package of £75m would be earmarked to purchase 1.1m hectares of land and re-settle 18,000 families, but officials stress that this is only scratching the surface.

Meanwhile, relations between the Nkomo and Mugabe wings of the governing coalition worsened again with the Prime Minister's accusation that it was Mr. Nkomo's ZIPRA guerrillas who were responsible for last week's outbreak of violence at the north-eastern town of Mlolo and in the Salisbury suburb of Chitungwiza.

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## Mugabe threat to expropriate white land

By Our Salisbury Correspondent

ZIMBABWE'S frustration at what it considers disappointingly low levels of international aid from Western countries has surfaced with a reported threat by Mr. Robert Mugabe, the prime minister, to expropriate white farm land without compensation.

Mr. Mugabe was said to have made the threat when he addressed a meeting of black tribesmen in the Mount Darwin area of north-east Zimbabwe. He accused Britain of failing to meet its pre-independence promises to provide funds to compensate white farmers for any of their land taken over.

He said his government wanted farmers to surrender some of their land and would have to look to Britain for compensation "because we have no money to pay them and do not feel inclined to pay for land plundered from the indigenous people by the colonisers."

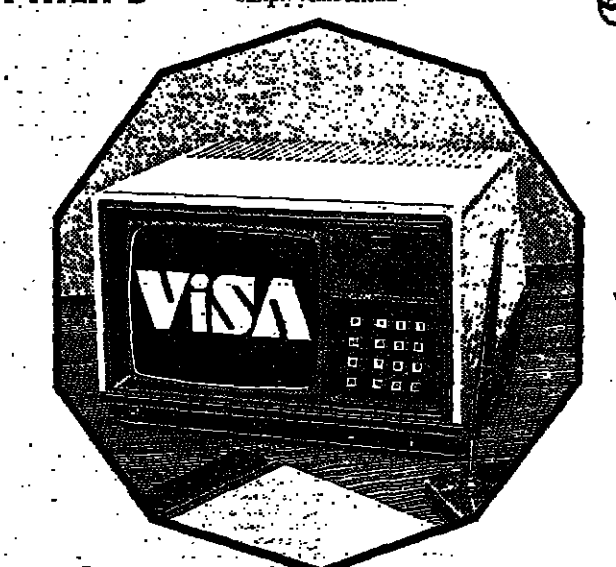
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## UK NEWS

# Prior must act in training boards finance deadlock

By ALAN PIKE

THE Manpower Services Commission has been unable to reach agreement on whether industry should in future become responsible for financing industrial training boards. Proposals to transfer the cost to industry are at the heart of a widespread examination of the 1973 Employment and Training Act carried out earlier this year by a review body of the Commission.

### Arguments

But as a result of disagreement between TUC and Confederation of British Industry representatives, the commission will now have to report to Mr. James Prior, the Employment Secretary, that it has no agreed view on the issue. It is calculated that an end to the present system of Government funding, with companies becoming responsible for the bulk of the cost of the 24 training boards, would currently cost industry an extra £51m a year.

CBI representatives on the review body reserved their position on the recommendation that industry should fund the boards, although the report said they appreciated the "logic and arguments."

It has become apparent from responses to the report, however, that there is widespread hostility to the plan among companies. Many employers have argued that, with industry under severe pressure from the recession, it cannot be expected to carry any extra burden at present.

### Welcome

There are also fears that if companies were forced to finance the boards, they would simply reduce spending on other aspects of training at a time when apprentice intake, for example, is already declining. The TUC, however, strongly

supports the financing of training boards by industry. In an unsuccessful attempt to reach agreement with the CBI, it offered to accept a phased transfer of funding to be completed by 1985.

It is expected that, in the absence of an agreed view, the commission will outline the positions of both sides of industry to Mr. Prior, with whom final decisions on the report will rest.

Legislation would be required to change the method of funding the boards which, under the 1964 Industrial Training Act, were originally financed by industry.

It has been suggested that the Government - apart from welcoming the public spending savings involved in making the change - might be attracted to the view that, since industry benefits from training facilities, it should be responsible for paying for them.

# Value of contractors' overseas work falls

By Michael Cassell

A BIG FALL in the value of overseas work being done by UK contractors is revealed in figures released by the Department of the Environment.

The figures reflect the growing difficulties encountered by British building and civil engineering companies in finding foreign contracts and come at a time when their domestic workload has reached one of its lowest ebbs in post-war years.

According to the DoE, the current price value of overseas projects carried out during the 12 months to the end of last April was £1.29bn, a fall of 20 per cent from the previous year's level.

At the same time, the current price value of new contracts won totalled £1.5bn. Though this approximates the 1978-79 figure it implies a sharp drop in new business when expressed in constant terms.

The value of contractors' work outstanding at the end of April stood at £1.5bn against £1.5bn a year earlier.

British companies associated with the construction industry notched up a huge £2.74bn in overseas earnings in 1979-80, with consulting engineers, architects and surveyors accounting for £470m of the total. Exports of construction materials contributed £220m in earnings.

The Middle East markets remained the most important for British companies, providing nearly half of all the contracts won. While the United Arab Emirates was again the largest source of new work, there was a growth in orders from Saudi Arabia and Egypt.

Construction orders also rose in North and South American markets, with the value of contracts reaching £270m, three times the level achieved in the year before and twice as high as in any previous year. The DoE says the companies' again took over 90 per cent of the work won, although 19 others won overseas contracts for the first time.

# Engineering employers resist 'unacceptable' training costs

By ALAN PIKE

THE ENGINEERING Employers' Federation is supporting the Confederation of British Industry's opposition to employers bearing the cost of industrial training boards.

The federation, in evidence published today, says: "The imposition of an additional cost burden on employers in the present economic conditions is quite unacceptable."

In its response to the Manpower Services Commission report, which proposes the change, the Federation also opposes a recommendation that the existing 1 per cent statutory limit on the levies which training boards can

impose, should be lifted. It has told the commission and Mr. James Prior, Employment Secretary, that there should be an examination of the scope for reducing the number of training boards.

"The present arrangements tend to cause duplication of administrative and training work. A slimmer structure would eliminate waste, provide savings and reduce costs."

While some large engineering companies with their own well established training systems believe that the Engineering Industry Training Board is unnecessary, the federation's evidence says

the general view is that it should be retained and should concentrate on practical training matters. However, there should be an independent investigation into methods of funding the board, and increased employer representation on it.

The MSC report proposes that its recommended changes in the recommended changes training should take place in 1982-83. But the EEF says that if the changes lead to any increased costs for industry, implementation "must be delayed until the industry is in a better position to shoulder any such additional burden."

# 'Gang of four' lobby for ethane route

Sue Cameron asks who should control North Sea gases once landed?

PERSUASION THAT they should control the supply of North Sea gases for use as petrochemical raw materials has been stepped up by Shell, Esso, BP Chemicals and Imperial Chemical Industries.

The heavy gases will be brought ashore to St. Fergus, on Scotland's northeast coast, via the planned £1.1bn gas-gathering offshore pipeline. The row is about who should control the gases once landed.

ICI, BP Chemicals, Shell Chemicals UK and Esso Chemical want the ethane gas-stream to go south, for use in their existing plants, rather than west, to a proposed petrochemicals complex at Nigg Bay on the Cromarty Firth.

Five days ago the four companies met Cabinet Ministers to explain why their scheme should take precedence over the Nigg plan.

The argument is likely to intensify because a group of banks led by the Bank of Scotland and Baring Brothers is ready to finance the start of construction work on the pipeline project. This could add urgency to the onshore fight about ethane supplies.

The Nigg lobby has put a powerful case and created a disproportionate amount of anxiety at Shell, Esso, BP and ICI by successfully dubbing them the "Gang of Four."

But the four have finally responded. The case they put to the Secretaries of State for Energy, Industry and Scotland last Wednesday is a strong one, doubtless strongly put. But whether it is better than that advanced by the Nigg lobby remains in question.

The Nigg lobby is divided. One leading member is the U.S.-based Dow group, which outlined a £400m plan for building a petrochemicals plant at Nigg using ethane as a raw material.

But UK-based Highland Hydrocarbons has a rival plan to build a bigger petrochemicals complex at Nigg and to run it on a common-user basis. The Highland scheme also provides for some of the gases to go south for use in the four's plants.

Another contender in the general race is the U.S.-based Occidental, which wants to use the gases at a comparatively small plant it wants to build at Peterhead, near St. Fergus. Occidental's plan means there will be probably enough ethane to feed both a Peterhead plant and either a Nigg plant or the existing southern plants.

But not until the 1990s will there be sufficient gas from the offshore pipeline to supply both a Nigg complex and existing plants at Grangemouth and Mossburn in Scotland and Wilton, Teesside.

The fight for control of the gases is intense because it is more economic to make ethylene, the so-called building block of the petrochemical industry, from ethane than from oil-based naphtha. The four, like the rest of the Western European chemical industry, are almost entirely reliant on naphtha as feedstock.

Whoever wins will be in a stronger competitive position than other, naphtha-based pro-

ducers, especially now when Europe's petrochemical companies, including the UK four, are in a parlous state due to overcapacity and the world recession. This gives an edge of desperation to the voice of the "Southern Four," as they prefer to be called.

The case they advanced on Wednesday was founded in that: ● the existing UK petrochemical industry could and almost certainly would be seriously damaged if "outsiders" were allowed initial control of the ethane;

● their scheme would cost less than the alternatives - £150m against £200m, £400m or £800m; ● their plan to convert their existing plants from naphtha to gas feedstocks and to build an onshore pipeline from St. Fergus to the South could be operational years before the other schemes;

and, ● the time factor could save Britain at least £300m - the added value that would be lost while the gases were left in the North Sea or burnt in power-stations instead of being turned into petrochemicals profitably.

The claim that the UK petrochemical industry would be damaged by outsiders is undoubtedly true but it is also a call for protectionism.

Nigg lobby members predict that the Southern Four will make allegedly empty threats to close some of their existing plants unless they are favoured. The real question is whether producers ought to be given special protection. It could be argued that if they were worth protecting they should have spotted the potential in North

Sea gas earlier. Dow did when it bought 1,600 acres of land at Nigg.

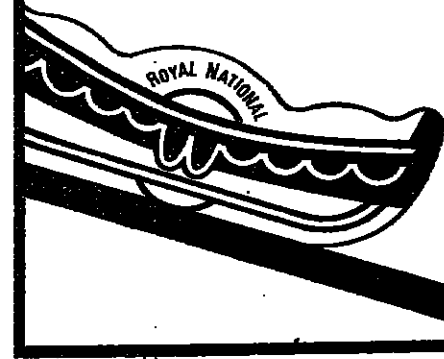
The four say the picture was altered completely by the Iranian revolution and the leap in world oil prices last year. They say that until 1979 the oil-based naphtha was quite able to compete against gas as a petrochemical feedstock.

The Southern Four's argument on cost seems a weak one, too. Their scheme would be cheaper than the alternatives, but for whom?

Some would say that costlier, green-field development schemes at Nigg would mean greater new investment in Britain.

The four are on stronger ground in timing. They reckon the UK industry, regardless of who belongs to it, will lose £100m every year the gases, notably the ethane, are not made into petrochemicals. The figure is based on the cost-differential between heavy fuel-oil and the more expensive naphtha.

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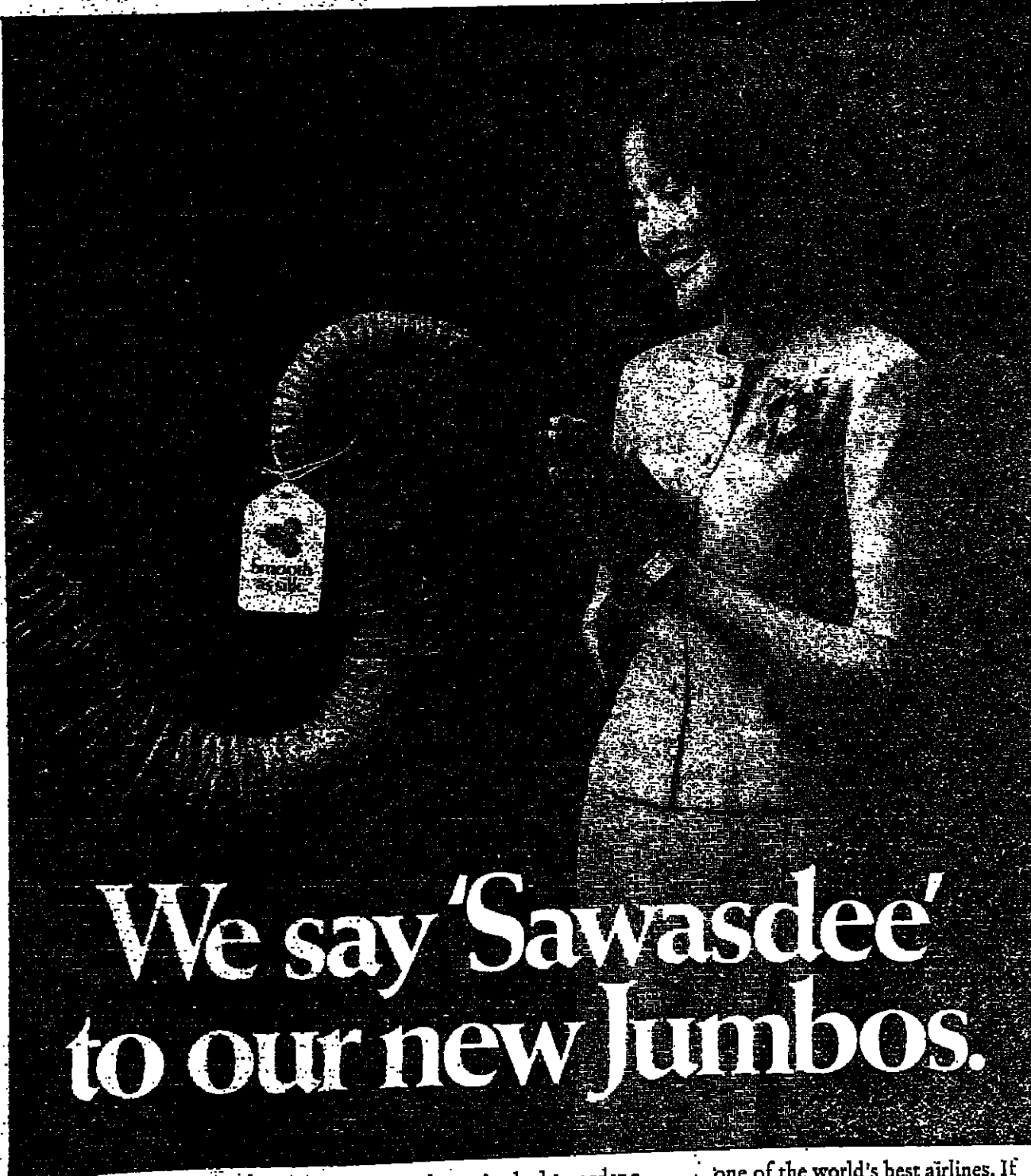
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## OVERSEAS NEWS

## REPUBLICAN CONFIDENCE WANES

## Why California may turn its back on Reagan

BY DAVID BUCHAN IN LOS ANGELES

A CARTER victory in California, Mr. Ronald Reagan's home state, would be a disaster for the Republican Party here, but the latest developments concerning the American hostages in Iran, and none would now place money that Mr. Reagan has the 45 electoral votes of the country's most populous state locked up.

The long-shot hopes of the President, who had planned to make the golden state his very last 1980 campaign stop today, are based on a recent Democratic poll showing him less than 5 per cent behind Mr. Reagan in California.

For the hard-driven Mr. Carter, an upset California victory could either tip a surprise landslide on top of Mr. Reagan, or, in defeat, provide him the ironic consolation that Mr. Reagan had at least been rejected by the very voters who know him best.

Mr. Reagan—"Governor" as he is still honorifically called from his two terms in the Sacramento State House—has the cards stacked in his favour. His 1966-74 Administration is in general benignly remembered, though it was not the glowing success Mr. Reagan promises he could repeat in the White House.

Taxes did go up, but not by the amount they would have without Mr. Reagan's spending cuts.

His Administration attracted no serious scandal, unusual for so long a period in so large a local government.

California is too large and self-confident to have the parochialism of smaller states. But many Californians who do not openly root for Mr. Reagan are not immune to a desire to see one of their number back in the White House, if only to redress the hash the last Californian president—Richard Nixon—made of it.

A Reagan victory would mean top jobs for Californians too. In a sense, the nomination, with Mr. Reagan's explicit approval, of Mr. A. W. Clausen of the California-based Bank of America to head the World Bank was a foretaste of what might follow.

It is Mr. Carter's problem across the country that Republican voters tend to be more highly motivated to go to the polls than traditional Demo-

## U.S. ELECTIONS



Ronald Reagan... under pressure

In California, this negates the 53-38 per cent edge in registration that Democrats still have over Republicans.

Despite the efforts of the black mayors of Oakland and Los Angeles with the black community of Senator Edward Kennedy with Mexican Americans, of Vice-President Walter Mondale with trade unions, and messages from Mr. Ezer Weizman, the former Israeli Defence Minister, who has been touting the Carter cause to Los Angeles' big Jewish community, there is not much enthusiasm for President Carter. Governor Jerry Brown has stumped for his erstwhile rival, Mr. Carter, but the Governor's flop this year in winning only one delegate in the primaries has severely knocked his credibility. And there is "the Anderson factor." As everywhere, the independent candidate has

slipped in the polls. But Quixotic quests thrive in the California air. John Anderson has natural turf in the San Francisco area, nursery of California liberalism which a Democrat would otherwise harvest.

He is also not without support in Southern California where he held a Saturday night Los Angeles rally, accompanied like all politicians campaigning down here by the inevitable acolyte from stage or screen (in his case, one of the scapely happy "surgeons" of the MASH television series).

Republicans claim Mr. Reagan is getting a fair share of the support now deserting Mr. Anderson, because independent voters had been embittered by the Carter attempts to derail the Anderson effort. But other maverick causes do well in California, and one of them is the Libertarian Party, whose presidential candidate is Mr. Ed Clark and which competes for Right-wing votes. If Mr. Clark were to get even the 4 per cent he received when running for mayor of Los Angeles two years ago, he could hurt Mr. Reagan as much as Mr. Anderson will Mr. Carter.

Having Mr. Reagan in the State House is quite different from putting him in the Oval Office. The Carter forces keep reminding Californians. Much media play has been given to the President's 1976 warning that "Governor Reagan couldn't start a war. President Reagan could." By the vagaries of the American system, under which parties are first torn apart in primaries and then supposedly welded together in general elections, the corner of that slogan is Mr. Stuart Spencer, then a Ford adviser, but now the chief Reagan campaign counselor.

But Mr. Carter is still the underdog in California—and even more so in the rest of the almost solidly Republican West. He and Westerners never hit it off, since in 1978 he vetoed western water projects in the Federal budget.

In 1976, Mr. Carter lost all the west bar Texas and Hawaii. This year he stands a chance in Oregon but Republicans are still hopeful that generally Mr. Carter will do even worse tomorrow than in 1976.

## Polish strike alert still in force

By Christopher Bobinski in Warsaw

FOURTEEN HOURS of talks on Friday between the Polish Government and Solidarity, the country's largest independent union, failed to convince the union of the sincerity of the authorities' intentions towards the new free trade unions. The strike alert ordered for November 12 is still in force.

At the weekend the Warsaw branch of Solidarity released the text of a communique prepared after the talks by representatives of both Government and union and which the authorities refused to sign at the last minute.

Friday's talks were called after union protests at the Government's insistence on Solidarity recognising the supremacy of the Communist Party in its articles of registration.

The strike threat is real. After the talks Mr. Marian Jarczyk, a moderate union leader from Szczecin, told the union national committee that a survey in his region had shown that out of 831 factories and institutions only eight had voted against strike action if union demands were not satisfied.

On the insertion by a Warsaw district judge of a clause into Solidarity's articles saying that the union recognised the leading role of the party in the State, Mr. Jerzy Badzi, the Justice Minister, promised that the Polish High Court would examine the union appeal against the decision by November 10.

The draft communique, if signed, would have confirmed a Government promise that the union would be given permission to publish a national weekly newspaper and details of access to radio and TV were to be discussed.

The Government also promised printing machines donated to Solidarity from abroad, and now held up by Polish customs, would be cleared free of tax and duty. The principles on which a union publishing house would operate "would be determined."

The only union demand which the authorities are evidently unwilling to fulfil is that farmers should have the right to form their own union.

## IATA MEETING

## Third World airlines flex muscles

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

THE WORLD'S airlines go away from this year's annual meeting of the International Air Transport Association conscious of the fact that although they may have settled some of their outstanding problems they still face one of the most difficult periods in civil aviation history.

Not only is the business recession depressing traffic while costs of all kinds are resulting in substantial losses for many airlines, but there are also continuing problems such as the price of fuel and the ever present likelihood of scarcities in various parts of the world.

But a new factor has begun to obtrude itself on the Association's consciousness. "This is the emergence of the airlines of the developing world whose numbers are increasing steadily and threatening to erode the influence of the bigger airlines of the developed industrial world."

The background to the airlines' current situation was spelled out by Mr. Knut Hammarstrand, the IATA Director-General, in his annual report last week. With a record number of passengers—2,500 million in 1979—5 per cent more than in the previous year—the airlines made virtually no money. The industry's operating profit was \$150m for just over 100 airlines before taxes with a net profit of only \$100m.

The general belief among airlines in Montreal during the

meeting was that the recession would begin to fade out towards the latter part of next year, and that by 1982 the airlines should be seeing better times. Their big challenge is to survive until then, and in order to do this they are setting themselves firmly against fares cuts where these can be avoided and seeking, instead, fares increases. The possibility of fares rises of 5-10 per cent worldwide by

meeting was that the recession have already added up to \$100m to their costs in the UK alone this year and will add more if the increases now in the pipeline come to fruition.

All these, however, are external problems which the airlines are geared to face because they have faced them before.

By contrast, a new problem comes from within IATA from

ways. The inquiry's report is, at face value, an innocuous document. But underlying it is a "potent, long-term threat to the cosy world of the IATA created by the bigger airlines of the developed countries over the past 30 years."

In effect Gen. Haimbe and his team have served notice on IATA that the old days have gone for ever and that the new era must take account of a situation in which the developing nations' airlines account for more than half of the total membership of the association.

In Montreal they revealed a new face, and showed confidence in their strike. They were still tentative in challenging the precepts of the bigger airlines, such as the latter's right to introduce end-to-end fares that straddle their territory and took little account of their local views. But there was no doubt that the challenge was there, and that it was getting stronger.

Gen. Haimbe's report made it clear that the IATA system was almost in danger of collapse, and that the eventual result of the bigger airlines' behaviour would only be a growth of "regionalism," with the smaller airlines establishing local associations whose basic belief would be to look after their own members' interests first and those of the bigger airlines outside, second.

South African Airways has abandoned plans to beat the ban on overflying African countries by chartering Luxair of Luxembourg to carry out its flights to Athens and Rome, writes Quentin Peel from Johannesburg. Negotiations had been fruitless, SAA said at the weekend. It was understood agreement had been reached to sell a Boeing 747 to Luxair and paint a second jumbo jet in Luxair colours for occasional use. As the two airlines have failed to reach agreement, SAA will continue to provide the twice-weekly flights along a long route around the bulge of West Africa.

next April cannot be overlooked.

Apart from the price of fuel, which doubled last year and has risen by at least another 25-30 per cent since then with the possibility of further increases during the coming winter, the other inflationary factor facing the airlines is that of user charges—the price they have to pay for landing, parking and taking off their aircraft at the

the emergence of the airlines of the developing world who are beginning to realise their power in the IATA forum and also how to use it.

This attitude surfaced in Manila last year when the pressures created by those airlines resulted in the creation of the special inquiry under the chairmanship of Brigadier-General Enos Haimbe, managing Director of Zambian Air-

## SHIPPING REPORT

## Surge in Russian charters

BY OUR SHIPPING CORRESPONDENT

THE MAIN feature of the week in dry cargo markets has been the surge in chartering activity by the Russians. Brokers report that about 30 ships have been fixed by the Russians as they work to cover the substantial shortfall in their grain harvest.

Denholm Coates, the London shipbrokers, reports that the Russians have concentrated their activity on chartering ships for single round-trip voyages. With one exception they have not been chartering for longer.

Time charter rates in the Atlantic have risen to \$9250 per day for Great Lakes-type ships and 40,000-tonners are able to command up to \$11,500 per day. Surprisingly, the improvement in freight rates has not

spread to the larger Panamax sizes (70,000 tonnes) and here rates have eased back to \$15 per tonne in the key U.S. Gulf/Continent grain trade.

In the tanker market rates have improved and the going rate for Very Large Crude Carriers (VLCCs) is above Worldscale 35 for the key voyage westwards out of the Arabian Gulf.

However, John I. Jacobs notes in his latest weekly tanker report that the improvement in freight rates has coincided with a rise of over a quarter in the cost of fuel during the last month. For steam turbine-powered VLCC the cost of extra bunkers on a round trip from the Gulf to Europe is about \$360,000.

## World Economic Indicators

		TRADE STATISTICS			
		Sept. '80	Aug. '80	July '80	Sept. '79
UK £m	Exports	3,922	3,958	4,032	3,610
	Imports	3,553	3,895	3,771	3,720
	Balance	+0,369	+0,063	+0,261	-0,110
France Frbn	Exports	40,928	40,752	40,974	38,520
	Imports	46,358	44,770	47,639	48,307
	Balance	-5,430	-4,018	-6,665	-1,787
Germany DMbn	Exports	29.4	24.2	29.2	25.1
	Imports	27.8	24.3	29.1	23.3
	Balance	+1.6	-0.1	-0.1	+1.8
Japan U.S.\$bn	Exports	11,517	10,200	11,241	9,199
	Imports	9,541	9,870	11,128	9,022
	Balance	+1,976	+0,330	+0,113	+0,177
U.S. \$bn	Exports	18,701	19,103	18,075	18,322
	Imports	19,465	19,236	18,995	18,407
	Balance	-0,764	-0,132	-0,920	-2,585
Netherlands Flbn	Exports	10,512	11,057	11,884	10,163
	Imports	11,471	12,023	13,338	11,280
	Balance	-0,959	-0,966	-1,454	-1,117
Italy Lirebn	Exports	4,950	5,360.0	5,704.0	5,032.0
	Imports	6,590.0	7,127.0	6,715.0	4,451.0
	Balance	-1,639.0	-1,767.0	-1,011.0	-518.0
Belgium BFbn	Exports	151,602	176,842	173,561	145,416
	Imports	163,715	182,890	196,000	154,551
	Balance	-11,513	-6,048	-22,439	-11,135

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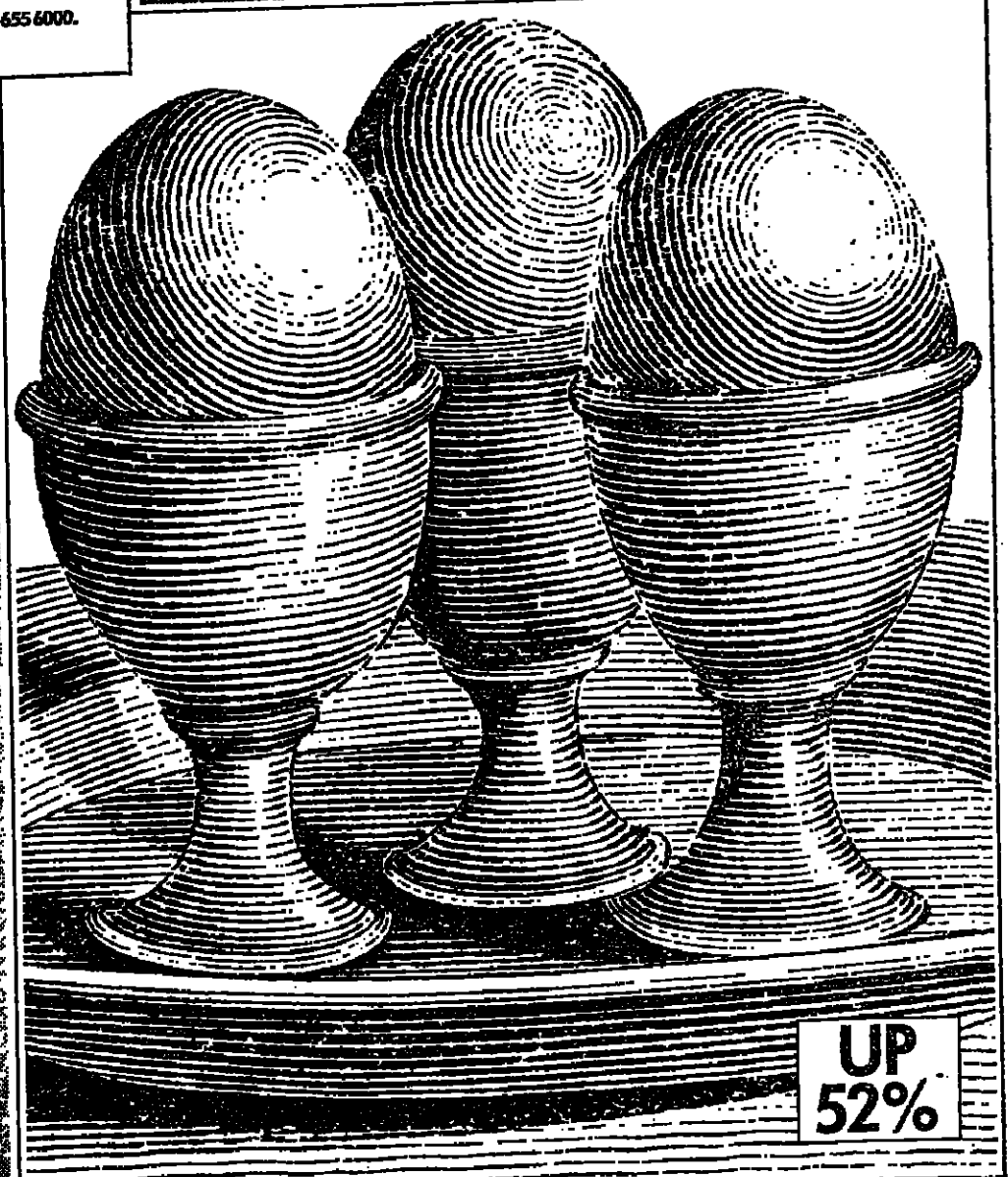
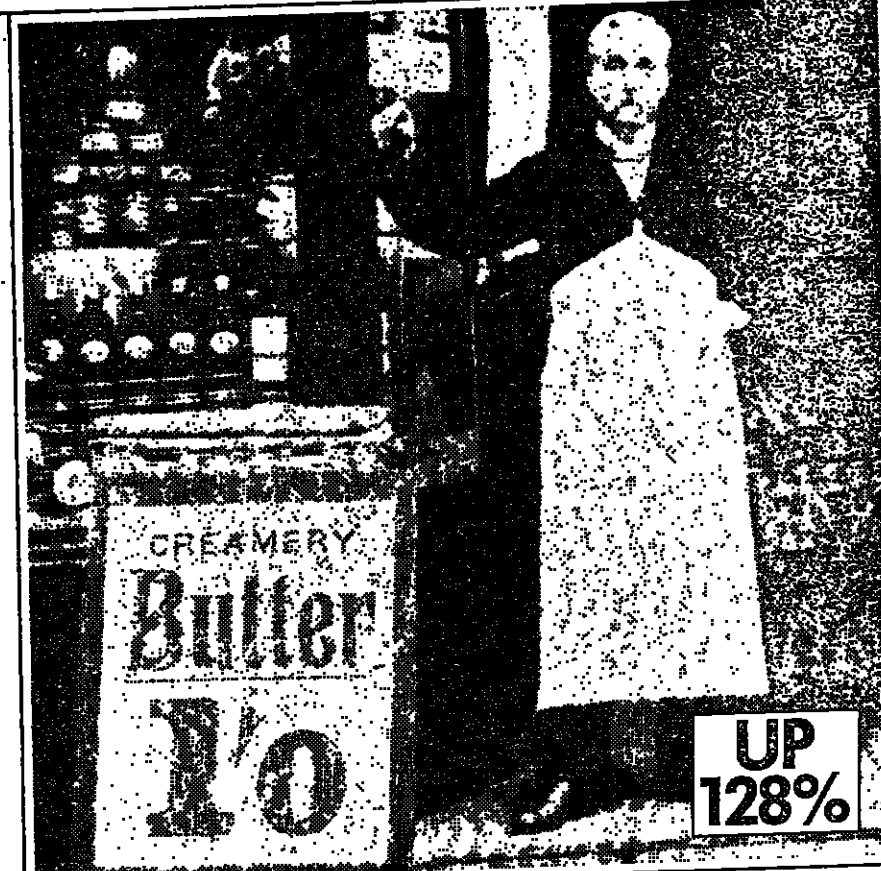
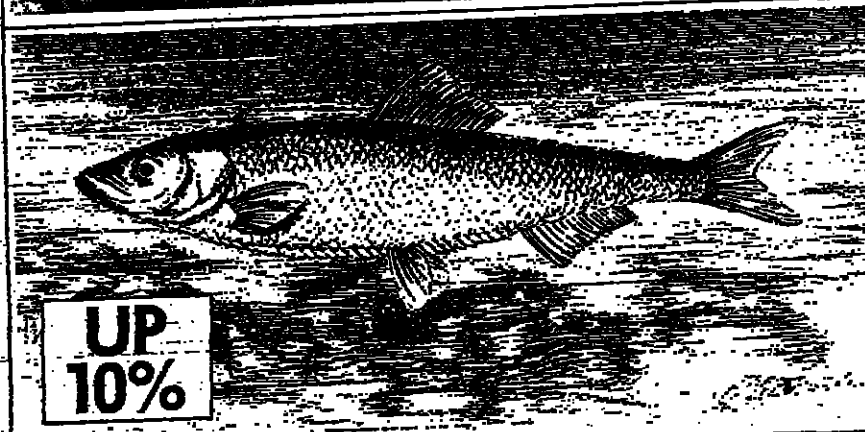
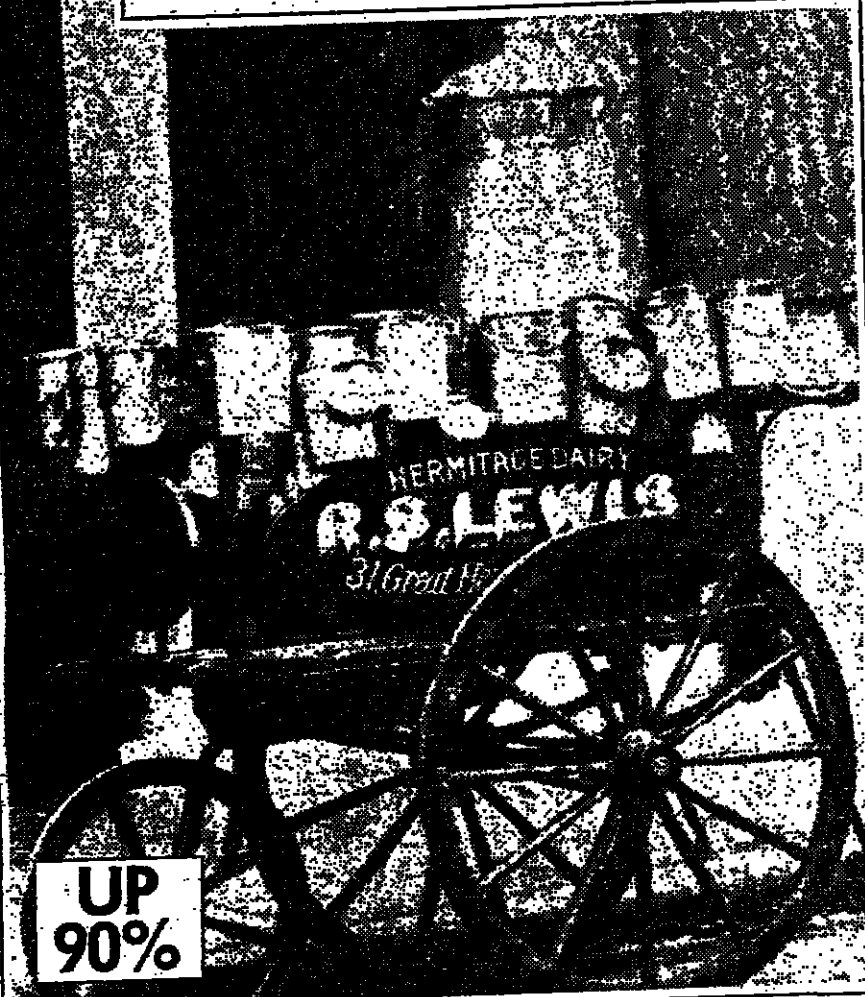
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## UK NEWS

### Recovery year seen as 1982

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

BRITAIN FACES another grim 12 months of falling output and profits says the London Business School in its Economic Outlook, published today. But prospects for after 1981 are brighter as inflation declines and domestic demand recovers.

The Outlook is produced by the school's Centre for Economic Forecasting. It says that if monetary policy is now tightened in line with the medium-term financial strategy the reduction in the inflation rate which has already occurred can be continued over the next four years.

The annual rate of consumer price inflation could average 8½ per cent in 1982 and about 6½ per cent in the following two years. On this basis, output, measured by real Gross Domestic Product, should recover strongly in 1982—up by 2.4 per cent, after falling by 0.6 per cent next year—and should grow by 1.9 and 1.8 per cent in 1983 and 1984.

The main causes of recovery in 1982 are a strong trade performance as the world economy grows; a rise in investment as company profits are restored; a rise in consumer spending as the inflation rate falls; and a rebuilding of stock levels.

However, the prospects for unemployment are poor. Although the recent rapid increases should not continue after next year, the total is still likely to rise slowly. The adult total in Britain is projected to be an average of 2.2m in 1982.

The next steps in the Government's strategy are considered by Dr. Alan Budd and Mr. Geoffrey Dicks, in the economic viewpoint. They compare the current position with the previous cycle. They conclude that this time the inflationary consequences of monetary expansion have come through more rapidly.

The authors examine the impact of the current distortions. They conclude that money supply has effectively been growing at an annual rate of 15 to 16 per cent for the past three years. They say there must be a steady reduction in monetary growth from now onwards if the Government is to maintain its current progress in reducing inflation.

It is assumed that, because of the current overshooting, the target for monetary growth will have a centre range of 6 per cent in 1981-82.

On the usual unchanged-policy assumptions, public-sector borrowing in 1981-82 is tentatively estimated at about £9½bn. This will make achievement of the monetary target extremely difficult.

Dr. Budd and Mr. Dicks say that one way around the problem would be to set cash limits—rigorously defined as the "permitted increase in public spending at current prices"—at 6 to 7 per cent in line with the monetary target. This would produce a public-sector borrowing saving of £2½bn compared with the forecast.

This would allow relief to be given to the corporate sector, for example, by reducing employers' national insurance surcharge.

The authors estimate that in later years the medium-term strategy should be consistent with cuts in taxation (corresponding to a reduction in the basic rate of income tax to 25 per cent by 1983-84), on the assumption that announced public spending plans are not exceeded.

They suggest that "on past experience the danger point will be around 1983, or possibly earlier, when the economy will be growing more strongly. It will coincide, we believe, with notable success in cutting inflation. The temptation to embark on a fiscal expansion, as in 1978, will be very strong."

"It may seem premature, at a time when the economy is still deep in recession and inflation is still at 16 per cent, to talk of the possible problems of success. But the whole point of the medium-term strategy is that it is intended to provide a policy commitment over many years and it cannot be too early to

warn of the dangers of departing from it in the future."

Mr. Michael Beenstock, in a separate briefing paper, examines the current debate about monetary policy. He concludes that if public-sector borrowing affects the money supply it should also have a direct influence on inflation.

The Government should therefore be less preoccupied with sterling M3 and lay even greater emphasis on public-sector borrowing. It should avoid sinking its energies into money base control which is, at most, advisable as a precaution. To avoid further money-market disturbances the authorities should revert to a floating rate policy for Minimum Lending Rate.

In detail, the Business School forecasts that public sector borrowing should decline from £9.9bn in the current financial year to £9.4bn in 1981-82, to £4.7bn in 1982-83, to £2.3bn in 1983-84, and to £3.3bn in 1984-85. This is on the basis of unchanged policies and in part reflects the growing contribution of North Sea oil revenue.

The Business School is generally optimistic about the monetary outlook, assuming a marked deceleration in the rate of monetary growth and a fall in MLR from 16 per cent now to an average 12 per cent next

year, 10 per cent in 1982, and 10 per cent in the following two years.

Sterling is assumed to depreciate next year. The trade-weighted index, which is forecast to appreciate by 9.2 per cent this year, is projected to decline from an average fourth-quarter 1980 level of 75 (1971=100) to 68 by the end of 1981, and to 65 by the end of 1982. On an average year-on-year basis this indicates declines of 6.9 and 4.7 per cent.

After the recent sharp fall in consumer spending, more or less uninterrupted if modest, growth is expected for the rest of the forecast period.

This reflects the combination of a deceleration in the rate of inflation, which is expected to produce a one point a year fall in the savings ratio over the next three years, and the expectation that direct taxes can be cut from 1982 onwards.

The squeeze on the corporate sector is expected to continue. Company profits (excluding stock appreciation and North Sea oil profits) are expected to drop by 25 per cent next year, after showing little change on average this year. Consequently the financial deficit of the non-oil corporate sector is expected to reach nearly £9bn next year, or 4.3 per cent of Gross Domestic Product compared

with the record 5.4 per cent level of 1974.

The result is expected to be a sharp decline in private fixed investments, with a strong recovery, led by housing, from 1982 onwards.

The expected depreciation of sterling helps exports after 1981 but the fall in imports associated with destocking is now forecast to have run its course.

Although the level of imports is expected to be unchanged in 1981 compared with the average for 1980, the improved economic outlook for 1982-84 is forecast to produce import growth of 3 per cent a year. Consequently, the current account of the balance of payments is projected to move back into deficit over the next four years.

The outlook for earnings has improved. In the next payround earnings are forecast to rise by about 12 to 13 per cent, as reduced profits in the private sector and cash limits in the public sector combine to produce a significant deceleration. This should be maintained over subsequent pay rounds, when earnings rises should settle at about 7 to 8 per cent.

Economic Outlook 1980-84, Vol. 5, No. 1, October, 1980 is available on subscription from Gower Publishing, 1, Westmead, Farnborough, Hants. GU14 7RU.

#### LONDON BUSINESS SCHOOL FORECASTS

(June projections in brackets)

	1980	1981	1982	1983	1984
Consumer spending	0.2 (0.2)	0.8 (-0.5)	1.4 (1.8)	1.1 (2.3)	1.3
Exports	1.4 (3.4)	-0.4 (0.9)	3.1 (2.7)	3.4 (2.6)	2.6
Imports	0.2 (-0.8)	0.0 (-1.6)	2.5 (1.9)	2.6 (3.4)	2.2
Gross Domestic Product	-2.5 (-2.3)	-0.6 (-0.4)	2.4 (1.9)	1.9 (1.6)	1.8
Consumer prices	16.9 (18.2)	12.0 (15.5)	8.5 (8.9)	6.5 (7.5)	6.4
Money supply (M3)	15.0 (8.8)	8.2 (7.8)	6.5 (6.4)	6.5 (6.5)	6.8
Current account (£bn)	0.1 (-1.9)	-1.4 (0.25)	-1.4 (2.05)	-1.5 (1.85)	-2.1
Adult unemployment (m, Great Britain)	1.5 (1.5)	2.0 (1.84)	2.2 (2.04)	2.2 (2.15)	2.1

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## CBI submits case for abolition of industrial rates

By JOHN ELLIOTT, INDUSTRIAL EDITOR

THE CONFEDERATION of British Industry is to step up its campaign for a sharp reduction in local authority rates by calling on the Government to examine plans for abolishing all rates for manufacturing industry.

This call will be delivered during a meeting of the National Economic Development Council on Wednesday when Mr. Michael Heseltine, Environment Secretary, will discuss the impact of his Department's policies.

In a paper presented to the council, the CBI says the financial plight of manufacturing industry is "now so serious that consideration must be given to the case for industrial de-rating."

CBI leaders know there is little chance of such a demand being met in the near future, and they have not yet adopted it as formal policy.

But the fact that they are tabling the idea for discussion illustrates their frustration at a time when the Government has failed to provide concessions on their other major economic and industrial demands such as reductions in the levels of interest rates and sterling, abolition of the national insurance surcharge, and cancellation of the four-

month moratorium on payment of regional development grants. Resentment about these issues will be aired at the CBI's annual conference in a week. Local government spending and the burden of rates on industry will be raised at a fringe meeting on the eve of the conference which will be addressed by Mr. Heseltine.

Last month the CBI called on the Government to stop local councils trying to offset public expenditure cuts by raising rates. It estimates that business rates will amount to about £4m in the current year, and complains that the Government has not tried to ease this burden on industry, either by setting ceilings or by allowing widespread payment by instalments.

Referring to the Conservative Party's interest in abolishing domestic rates, the CBI argues in its paper submitted to the NEDC that there is a bigger case for abolishing industrial rates. Mr. Heseltine will try to counter this attack by pointing to the services that his Department provides for industry. He will outline details of the circular he is about to issue to local councils stressing the need for them to handle planning applications faster and with greater flexibility.

## Whitehall cuts Civil Service jobs by 900

By Our Industrial Editor

THE NUMBER of civil servants employed by the Departments of Industry and Trade has been cut by nearly 900 to 16,200 during the past 18 months.

This includes jobs lost through the abolition of the former Department of Prices and Consumer Protection and the Metropolitan Board, together with a substantial reduction in the size of common service divisions which support both Departments.

Some of the cuts result from Government attempts to reduce the amount of manufacturing industry by the Business Statistics Office, and other branches of Whitehall.

Mr. David Mitchell, a Parliamentary Under-Secretary of State for Industry, announced three new initiatives at the weekend specially aimed at small businesses. He said a restructuring of quarterly inquiries into manufacturers' sales would cut the number of forms involved by 28,000 a year, saving £500,000 annually in manpower costs at the Business Statistics Office. It will lead to the loss of 100 jobs.

A wider use of sampling in the annual census of production would save 10,000 forms and costs of £125,000. Further savings would be made by reducing the number of questions in the annual minerals inquiry form.

Overall, the number of civil servants at the Department of Industry has dropped by about 210. This has mainly been carried out by natural wastage.

At a top level in the Department, the number of deputy secretaries has been reduced from seven to five.

The Department's research establishments have shed the most staff so far—128—while regional policy divisions and offices have lost 60.

Only 30 have so far gone from the divisions which "sponsor" individual industries whose work Sir Keith Joseph, the Industry Secretary, relies on for information about how the recession has hit manufacturing industry.

The number of civil servants at the Department of Trade has dropped by about 450 from 7,640 to 7,190.

## BL shop stewards face a test of nerve

Arthur Smith reports on a meeting of union leaders which will decide whether to recommend a strike.

BL CARS' management maintains that the 300 senior shop stewards who meet at the Canley Social Club, Coventry, today to decide whether to recommend a strike in pursuit of a 20 per cent pay claim, "bear a heavy responsibility for the future of the company."

The location itself should be enough to remind the stewards of lost opportunities: the Canley site, home of Triumph until 12 months ago, employed nearly 10,000 workers, but is now being run down with the ending of the Spitfire and Dolomite models.

Union leaders are conscious that the past two years have seen not only a rapid cut in production facilities but also a steady stream of defeats at the hands of Sir Michael Edwards. In each round of negotiations he has stated his position firmly at the outset, refused to shift ground, and watched the unions bob and weave before eventually acknowledging defeat.

This year he imposed a 5 per cent pay settlement linked to fundamental changes in working practices. He refused to panic in the face of a strike by more

than 20,000 workers which halted nearly all car assembly. Instead, he threatened to sack all workers who did not report for duty by a certain date.

The response of national trade union leaders was to attend an 11th-hour meeting at which a form of words was agreed to defuse the situation.

The pay deal went through and with it the controversial new working practices which mean that Longbridge, Birmingham, where the new Mini Metro is produced, already enjoys productivity levels comparable with the best in Europe.

Battered by the success of Sir Michael—the dismissal last November of Mr. Derek Robinson, the Communist convenor at Longbridge, greatly undermined the confidence of the shop steward movement—the unions entered the current pay round diffidently.

Last Monday, when senior stewards met in Coventry to

reject the company's 6.8 per cent offer in response to the 20 per cent demand, they bounced the issue back to the workers, calling for factory gate meetings.

Union leaders report that the militancy at Longbridge comes not from the activists but from the shop floor. Workers are complaining that take-home pay of £80-£84 a week, given the cut in overtime, poses domestic problems. Wives are lobbying shop stewards in favour of a pay increase to meet mounting household bills.

At Cowley, Oxford, an area where the moderates have traditionally held sway, 13,000 workers voted overwhelmingly for strike action.

Cowley learned only last week that under the 1981 BL corporate plan submitted to the Government it had an important role to play as the site for the planned new middle range car, the LC10.

But stewards believe such considerations of job security are secondary to the general unrest about the erosion of living standards while inflation mounts.

BL union leaders might suddenly be aware of the pay frustrations but they are equally conscious of their weak bargaining position. The company is faced with weak demand, extensive short-time working and the need to persuade an unsympathetic Conservative Government to provide funds exceeding the original £1bn State contribution.

There will undoubtedly be a move today to give the company five days' notice of strike action. But the moderates will point out that Sir Michael holds all the aces: there are divisions not only between the plants, with those on short time not prepared to strike, but also between the unions, with the engineering workers expected

eventually to break ranks. Many union leaders believe the BL negotiations "cry out for compromise" and that an 8.5 per cent offer might be enough to buy off militant action. But Sir Michael has already made clear that "not a penny more" can be offered. Given such tough opposition, the stewards may back off from direct confrontation.

Union leaders in Coventry today know they face a test of nerve. Sir Michael and the Government will watch with interest.

## Longer holidays for a third

A THIRD of Britain's workers received longer holiday entitlements in the last pay round, and half of them have had a reduction in hours over the last two years.

This emerges from the latest edition of "Bargaining Report," a survey by the Independent Labour Research Department of the 100 largest settlements in the last round.

## City 'favours general purpose annual reports'

FINANCIAL TIMES REPORTER

THERE IS considerable support in the City for the idea of the general purpose company annual report, and very little sympathy for the suggestion that companies should produce separate documents to meet the needs of experts, private shareholders and investors.

This is shown by a survey carried out earlier this year by Business Opinions for Charles Barker, the City public relations group.

The survey shows that, although many are not read very carefully when first received, annual reports are by far the most popular source of information about companies. Eighty-six per cent of respondents nominated the annual report among the first three sources they would consult.

Around a quarter of people in insurance and fund management first turn to a stockbroker's report on the company. The survey sample totals 342 "senior professionals" including insurance brokers, stockbrokers, bankers, people in unit and investment trusts, company executives, and accountants. It achieved a 75 per cent response rate.

Almost two-thirds of the respondents favoured the view that company accounts should be presented on the historic cost basis, with additional current cost figures showing the impact of inflation.

However, 50 per cent of people in unit and investment trusts felt that the main accounts should be on a CCA basis, with supplementary historic figures.

The survey found support for the idea that preliminary announcements should contain more balance-sheet detail. There was strong support for the inclusion of more information about post-balance-sheet events and future prospects in annual reports.

People covered by the survey were shown some of the findings of the recent Financial Times World Survey of Annual Reports and asked for their comments. Only a fifth of the survey sample disagreed with the view that U.S. companies produce better annual reports than British companies.

"Annual Reports and Accounts. A survey of City opinion," Charles Barker, London: £60.

## Interest up ½% on tax certificates

By Our Economics Correspondent

THE RATE of interest payable on the certificates of tax deposit scheme operated by the Inland Revenue is to be raised from 14½ to 15 per cent today in response to the rise in money market interest rates.

The certificates are available to taxpayers, both individuals and companies, to make advance provision for the payment of a wide range of taxes (other than PAYE) and for liabilities such as Petroleum Royalty.

The change in interest rates is for deposits under the series five prospectus. The new rate for tax and other liabilities will be 15 per cent and the rate of interest on deposits withdrawn for cash has also been increased by ½ a point to 11½ per cent.

An interest supplement, only payable in respect of a deposit applied in payment of a tax or other liability, of 2 per cent (instead of 2½ per cent) will be paid in respect of the first three months (previously two months) of a deposit.

## Bow Group attacks PAYE computerisation

By JASON CRISP

THE MAIN problems in computerising the Inland Revenue's Pay-As-You-Earn system lie in training and keeping competent staff to establish, run and maintain the system and the inability of British Telecom to provide new communications links in a reasonable time, the Conservative Party Bow Group claims in a report published today.

By comparison, the competence of the various computer suppliers is almost irrelevant, says the Bow Group.

This week a Cabinet committee is expected to decide whether the contract to computerise PAYE will be from a single tender by British-owned ICL, or if U.S.-owned manufacturers will be allowed to compete. It is expected that ICL will win.

Government procurement policy, which expires at the end of the year because of EEC and GATT rules, is for a single tender for ICL. American companies like IBM, Burroughs and Honeywell have lobbied vigorously to be allowed to compete.

The Bow Group describes the Inland Revenue's original plan based on 12 regional centres and 20,000 terminals all inter-

connected and "on-line" as "an unnecessarily complex and grandiose proposal" which would be risky and costly and take far too long to implement.

The Cabinet committee which considered the Inland Revenue's plans in August also feared it was too complicated and sent it back for reappraisal. The Inland Revenue is believed to have wanted IBM while the Department of Industry was very anxious it should be awarded to ICL.

A report calling for a step by step, simple approach, has been prepared jointly by Department of Industry, Inland Revenue, and the Government's computer agency, and been sent to Ministers.

The Bow Group report, written by John Butcher, MP, and Mr. Philip Virgo, wants the Revenue to introduce an initial system based on small business computers with a trial starting in two offices almost immediately before being introduced around the country.

"The Big Steal (Computerisation of PAYE assessment)," Bow Publications, 240 High Holborn WC1. £2.50.

## Public sector borrowing 'may top £14bn in 1981'

By PETER RIDDELL, ECONOMICS CORRESPONDENT

THE GOVERNMENT faces serious continuing problems with the level of public sector borrowing, stockbrokers Phillips and Drew warn in forecasts published today.

The brokers estimate that even with public spending cuts of £2bn in 1981-82 and with a mildly deflationary Budget next spring, borrowing could reach £12bn in the next financial year. Without these elements, it could be more than £14bn.

Because of the impact of the recession on savings and on bank borrowing, it is possible that a £12bn level of public borrowing could be combined with a 10 per cent rate of

monetary growth in 1981-82. But if no action is taken to reduce borrowing to this level, Phillips and Drew believe this would cast serious doubts on the Government's determination to meet its financial targets.

The level of public sector borrowing might be a major factor leading to a reversal in the downward trend of interest rates as the economy emerges from the recession in late 1981.

Phillips and Drew have revised downwards their inflation forecasts. The annual rate of retail price inflation could be down to 11.1½ per cent by next spring and into single figures a year later.

# ANSAFONE GETS THE ANSWER FROM DATA GENERAL...ON HOW TO IMPROVE PRODUCTION CONTROL AND PROFITABILITY.



Ansafone is the biggest manufacturer and distributor of telephone answering machines in the UK, and one of the largest in the world.

Naturally, a company which is itself in the advanced electronics field, is no stranger to computers.

"But we were using 1960s techniques for 1980s business," says Managing Director, John Evans. By which he means that Ansafone was buying batch-processing time for its various operations with six computer bureaux.

"All too often we were forced to base decisions on information that was already out of date and it was costing a fortune," adds Financial Director, Mike Smith.

John Evans: "If we were going to stay ahead, we needed our own on-line system.

We needed it to administrate our tens of thousands of rental contracts. We needed it for payroll and internal accounts. Most vital of all, as a cost-conscious manufacturing company, we needed it to improve our inventory and production control, which, in turn, would have a significant influence on our overall profitability."

Ansafone investigated the hardware of sixteen computer companies before deciding the most effective answer was to install three mini-computer systems by Data General, to handle independently their three main requirements. Data General equipment was chosen on technical merit and its capability of using advanced COBOL, to simplify in-house programming.

From the word 'go,' in September 1979, things moved fast. The rental system was in and working by November. Stock control and payroll, by March 1980. And in June, the stock

control system was adapted to give production control and materials requirements planning.

The production control system—IMPCON (Inventory Management and Production Control) was provided as a package by Cable and Wireless UK Services Ltd, using a Data General CS/60 computer and six terminals.

"Before we had this new system," says Mike Smith, "the best we could expect were stock reports days late. Now, we can define production and parts requirements against manufacturing estimates with total accuracy. What we particularly like are the extensive costing facilities. It not only deals with parts and quantities, but converts them into cash values."

John Evans: "Dramatically better—the results are there already."

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## UK NEWS - LABOUR

## Port strike support 'overwhelming'

BY PHILIP BASSETT, LABOUR STAFF

BRITISH SHIPPING is expected to be severely disrupted today by a 24-hour National Union of Seamen's strike over the Cunard flags of convenience dispute.

The union said yesterday that messages received at its head office indicated overwhelming support for the action. The strike was due to begin at midnight last night with the aim of preventing all sailings of British ships from UK ports.

The action is expected to halt British-owned cross-Channel ferry traffic, as well as cargo ships, though hovercraft services seem unlikely to be affected. Haverford said its Ramsgate-Calais service would be operating as normal and had vacancies.

The union has organised a programme of 14 rallies and meetings of members at major ports throughout the country. The largest are likely to be at Cardiff, Dover, Hull, Liverpool

and Southampton. Mr. Jim Slater, NUS general secretary, travelled to Liverpool yesterday to address a meeting there today.

The union's executive will meet tomorrow to receive a reply to its pay claim from the General Council of British Shipping.

It is likely the executive will also discuss the effects of today's action. A union spokesman said yesterday that the possibility of extending the action and asking for further support from foreign seamen could not be ruled out.

The NUS also became involved in a dispute with Cunard yesterday over the validity of a telex message from crewmen of the QE2, the company's flagship.

The message was sent to Mr. Slater and Lord Matthews, chairman of Cunard. The ship is threatened with industrial action over the flags of convenience dispute when it

docks at Southampton on Friday. But the telex message said staff did not wish to take part in this action.

The NUS doubted whether the message was representative of feeling aboard the ship, and said reports from the ship through official NUS channels indicated support for the proposed action. A spokesman for Cunard, though, said the telex had been received in good faith.

The message asked the union for advice on the legality of a secret ballot on taking action. It said: "It is our wish, we hope with your approval, to hold a properly conducted secret ballot to assess the true feelings of the crew. We have requested your representative on board to arrange this and have been repeatedly refused."

The message deplored the decision of the NUS executive to reject proposals for solving the dispute and asked the union to continue negotiations. The

crew of the QE2 have been told they may lose their jobs if they refuse to sail on an eight-day trip to the Canary Islands on Saturday.

The telex said if a decision was left until the ship docked, the crew considered it "could well be too late for saving future employment and the jobs on board the QE2 and all connected with it."

The other two cruise ships involved in the dispute, which centres on Cunard's wish to cut costs by placing the ships under flags of convenience, are the Countess, stranded at Barbados by an NUS sit-in, and the Princess. Four of Cunard's cargo fleet are also stranded. Lord Matthews has threatened to sell the cruise ships because of the NUS action.

There was no contact between the two sides over the weekend, but an approach to both parties is likely early this week from the Advisory, Conciliation and Arbitration Service.

## Farmers told they can afford parity

By Our Labour Staff

THE INSISTENCE of farmers that they could not afford to meet the wage claim submitted by the farmworkers' union for parity with average industrial earnings was attacked by the union at the weekend in preparation for the resumption of negotiations today.

Leaders of the National Union of Agricultural and Allied Workers have organised a rally in London today to tie in with the renewed pay talks with the employers' representatives on the Agricultural Wages Board.

The union, which represents about one-third of the country's 250,000 full-time agricultural workers, has tabled a claim which seeks to raise the basic pay of farmworkers from £58 for a 40-hour week to £110 for a 35-hour week.

The employers have warned that jobs may be lost if any settlement is more than they can afford.

Mr. Chris Kaufman, a national official of the union, said at the weekend that the farmers' reaction was designed to be misleading. He denied their claims that last year's pay deal of 191 to 241 per cent, one of the highest in the last pay round, had led to increased redundancies.

Fewer workers had left the industry than in the year before or in the average of the previous five and 20 years. He said farmers' claims that they could not afford to pay the increase were "utterly false."

Farmworkers' negotiators will enter the talks today armed with a report from the independent Low Pay Unit which urges the wages board to approve a 30 per cent increase from January next year as the first step in closing the earnings gap between farmworkers and the rest of the community.

A similar increase should follow next year's negotiations, in order to achieve parity by January, 1983. The report argues that in 1979, farmworkers would have required an increase in earnings of 53 or almost 54 per cent to achieve parity with non-agricultural employees.

The unit says, though, that because non-farm labour constitutes only 14 per cent of the total cost of agricultural inputs, a 50 per cent rise in earnings would only mean a 7 per cent rise in total costs. This in turn would mean an increase of less than 1 per cent in food prices in shops. The average farmworker pays proportionately more in tax and receives less in benefits from the state than his employer, it adds.

## Wilson calls for aid to newspapers

FORMER Prime Minister Sir Harold Wilson on Saturday called for State assistance for the newspaper industry—the day after the London Evening News closed.

In a letter to The Times he said the idea of strictly-controlled Government aid, rejected by publishers five years ago, should be looked at again. Under the Wilson scheme, aid would have been conditional on both sides of the industry "putting their house in order." Sir Harold said the plan might be greeted more favourably now that one newspaper had closed and another two were in jeopardy.

## Jobs freeze

NORTHAMPTONSHIRE County Council has put a freeze on recruitment of all white-collar and manual workers in a bid to cut back spending by a further £500,000. So far this year cutbacks of more than £10m have been made.

## Parliament next week

**COMMONS**  
Monday: Debates on EEC documents on milk and pig production; National Dock Labour Board (Increase of Loans Limit Order); Consumer Credit (Amendment) Regulations.  
Tuesday: EEC proposals on Product Liability and on Community Driving Licence.  
Wednesday: Lords Amendments to the Civil Aviation Bill; Proceedings on Tenants' Rights (Scotland) Bill; Lords Message on Criminal Justice (Scotland) Bill.  
Thursday: Debate on offshore safety; Remaining stages of Overseas Development and Co-operation Bill; Regulated Tenancies (Procedure) Regulations.  
Friday: Motions on EEC documents on agricultural produce, sheep meat and consumer protection.  
**LODS**  
Monday: Broadcasting Bill Report.  
Tuesday: Education (Assisted Places) Regulations; Highway (Road Humps) Bill Third Reading. Short debate on NECC industry memorandum.  
Wednesday: Local Government Planning and Land Bill, Third Reading.  
Thursday: Broadcasting Bill Report; Regulated Tenancies (Procedure) Regulations 1980.

## Civil Servants want pay reports released

BY PHILIP BASSETT, LABOUR STAFF

CIVIL SERVICE unions are likely this week to seek an injunction against the director of the service's Pay Research Unit to secure the release of the unit's comparability reports which are used to determine pay increases for 550,000 white-collar civil servants.

The Government last week suspended the Service's pay agreement, with the aim of preventing the delivery to the unions of the reports since they will show due increases substantially higher than the amount to be provided for pay in the forthcoming cash limits for the Service.

Mr. Vernon Morgan, PRU director, then wrote to the unions to inform them the reports would not be delivered. The unions replied with a request from their solicitors that the reports be delivered, but union officials now expect that request to be refused.

In consequence, the unions are expected to seek a court injunction to obtain the reports which would provide a considerable propaganda weapon for the unions to support any industrial action taken in the new year.

The Government could be considerably embarrassed if the unions manage through court action to negate the main reason for the suspension of the pay agreement.

The unions consider that Mr. Morgan made an error in taking the decision to withhold the reports following a letter to him from Lord Soames, Lord President of the Council, and Minister in day-to-day charge of the Civil Service, saying that it would be "appropriate" that the reports should not be delivered. The unions feel that Mr. Morgan should have first called a meeting of the PRU Board which was established to ensure the correct running of the unit's work.

The unions have warned of widespread industrial action over pay this winter, and their industrial action co-ordinating committee meets today to draw up plans for a series of protest meetings this month as a first step.

The meetings are likely to be in about 16 regional centres. For the first time, the action is likely to be co-ordinated to the extent that the offices of the Council of Civil Service Unions, the umbrella body of the nine civil service unions, will be used as a communications headquarters for the action.

Some union officials believe that the suspension of the pay agreement for this year is only a prelude for its full suspension next year.

## Widespread reduction in work hours

By Our Labour Staff

A QUARTER of Britain's workers have secured a reduction in working hours over the last two years, according to a study of the 199 highest settlements in the last pay round, published today by the Labour Research Department.

Earlier this year the department's Bargaining Report said roughly 4m workers won shorter working-week agreements over the period.

But following agreement involving British Steel, the general printing industry, London Transport, British Rail, retail Co-ops, wholesale grocery, construction, ICI and Pilkington, the latest report says that total is now about 5.6m, or a quarter of the national workforce. The report takes no account of local and smaller national shorter hours settlements.

The LRD says: "A feature of the 1980-81 pay round is certain to be very heavy pressure from unions on employers who have yet to agree to shorter hours."

The survey covers roughly 11½m workers — about 7.9m manual and 3.6m non-manual, about 6.1m public and 5.4m private sector employees. A third of Britain's workers managed an improved holiday entitlement in the last pay round, it adds.

## Union banking plan is helped by Co-op

UNION OFFICIALS, using the expertise of the Co-operative Bank, are well on the way towards drawing up a feasibility plan for setting up a banking institution controlled by the unions.

If such a scheme—which has financial and political motives—eventually takes root it will mark a considerable departure in the unions' view of financial institutions and their own corporate image.

It would also represent a significant rethink of current union attitudes to finance which, in comparison to those held by unions in some European countries, might be regarded as backward.

A number of frameworks are being examined by the Co-operative Bank. A report to be issued within the next few months on how much money will have to be injected by a union consortium to get the project off the ground and the type of partnership the unions should be seeking.

From this, the more optimistic union officials see the erosion of a new banking institution within a year or so, though with a fairly lengthy gestation period for it to gain credibility.

The impetus has come from the General and Municipal Workers' Union and in particular Mr. David Barnett, its general secretary. Considerable interest has been awakened in

NICK GARNETT examines the financial and political implications of the ambition of the trade union movement to establish a banking institution under its control.

other unions, particularly the Association of Scientific, Technical and Managerial Staffs.

The unions have no expertise in banking and need an existing structure which can be modified. They have not restricted their discussions to the Co-op, however. There have already been tentative talks with a number of merchant banks and an Israeli bank. Local management at Barclays, which is one of the GMWU's bankers, has shown considerable interest in a possible partnership.

Officials of the GMWU have also had discussions with West German trade union banks—in particular the Bank für Gemeinwirtschaft—which are well developed and have close financial links with the equivalent of the Co-operative movement within the Federal Republic.

The British unions have been seeking information on the way their West German colleagues have developed a strong concept of retail banking and created a union movement with much greater financial strength than that in Britain.

Not surprisingly, though, the Co-operative Bank has been taking the lead in the project. "The unions are our friends

and customers and we are seeking a framework with them," said Mr. Malcolm Hurleston of the bank.

The unions have been tentatively discussing the creation of an institution with both a merchant banking arm and a type of clearing bank facility, though there are considerable legal difficulties.

The broadening of the Co-operative Bank's interests, including its Commercial Bank merchant banking facility, has been a further attraction to the unions.

Given the antipathy of the Trades Union Congress towards the way financial institutions are organised, bankers might question why it has taken so long for the unions to attempt to set up their own institution.

Mr. Barnett stresses that functional uses are the prime motive for the initiative. "The unions together have tens of millions in current and deposit accounts, pension and other funds. The GMWU's income is currently about £20m a year. Initial union estimates suggest that, alone, several million pounds would have to be set aside by a consortium to launch even a basic banking facility."

There are clearly some long-term economic and more tenuous political overtones in the unions' move. Some unions suggest, perhaps optimistically, that it could create a yardstick for pension fund management against which the performance of other banks could be measured.

A deeper commitment would be a stake in the handling of the country's economic resources and an influence, though minor to begin with, in the financial market.

This reflects a more corporate attitude and has the individual stamp of Mr. Barnett.

## Retail Banking

LONDON 18 &amp; 19 November 1980

Competition in retail banking has intensified over the past months. Nowhere are commercial banks likely to take more interest in the opportunities provided by the retail banking market than in the United Kingdom, where between 40/50% of the adult population still lacks a cheque account.

The Financial Times has arranged this conference to examine the opportunities provided by the UK personal banking market and consider how particular institutions are best placed to take advantage of this.

The panel of speakers will include:

Mr W J Benson  
Director & Group Chief Executive  
National Westminster Bank Limited

Mr Daniel Cardon de Lichtbuer  
Administrateur  
Membre du Comité de Direction  
Banque Bruxelles Lambert SA

Mr P T Hindley  
Group Personnel Controller  
Debenhams Limited

Mr J A Brooks  
Director & Deputy Chief General Manager  
Midland Bank Limited

Mr J M Fry  
General Manager,  
Marketing and Planning  
Abbey National Building Society

Dr P Pfeiffer  
Member of the Board of Directors  
Bayerische Vereinsbank

A Financial Times Conference

## Retail Banking

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BUSINESSMAN'S DIARY  
UK TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Nov. 4-6	Computer Peripheral and Small Computer Systems Exhibition and Conference (01-537 3636)	Olympia
Nov. 4-6	Kensington Antiques Fair (04585 5622)	Kensington New Town Hall
Nov. 8-16	Caravan Camping Holiday Fair (01-353 4000)	Earls Court
Nov. 9-11	Daily Mail International Ski Show (Midway 47111)	Earls Court
Nov. 9-11	International Garden and Leisure Exhibition—GLEE (01-546 6737)	National Exhibition Centre, Birmingham
Nov. 11-13	Fast Food Fair and Conference (01-537 3636)	Metropole Hall, Brighton
Nov. 11-14	London Business Equipment Exhibition (01-405 6233)	Cunard Intl. Hotel, W6
Nov. 11-14	The Factory Management and Maintenance Engineering Show and Conference (PEMEC) (01-747 3131)	National Exhibition Centre, Birmingham
Nov. 11-14	The Design Engineering Show and Conference (01-747 3131)	National Exhibition Centre, Birmingham
Nov. 12-15	International Festival of Wine (0703 32345)	Post House Hotel, Southampton
Nov. 16-19	Sunday Times Business to Business Exhibition (01-407 4046)	Belle Vue, Manchester
Nov. 24-29	International Food, Wine and Kitchen Exhibition (08294 2442)	Magnum Exhibition Centre, Leicester
Nov. 25-28	The Which Computer Show (01-747 3131)	National Exhibition Centre, Birmingham
Nov. 26-28	British Marine Trade Show (0832 5451)	Metropole Hall, Brighton

## OVERSEAS TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Nov. 3-8	International Engineering Exhibition—ENKOR (01-481 7688)	Seoul
Nov. 4-7	International Trade Fair for Clothing Textiles—INTERSTOFF (01-734 0548)	Frankfurt, Copenhagen
Nov. 8-16	International Boat Show (01-540 1101)	Bahrain
Nov. 9-14	Middle East Building Materials and Construction Industry Exhibition (01-486 1851)	Bahrain
Nov. 14-23	Mining Industry Technical Fair—TECNOMIN (01-681 7688)	Lima
Nov. 17-22	International Packaging Exhibition (01-439 8964)	Paris
Nov. 19-22	Medical and Technical Exhibition and Congress—MEDICA (01-409 0856)	Düsseldorf
Nov. 19-22	International Hospital Engineering, Exhibition and Conference—HOSPEX (01-486 1951)	Tokyo
Nov. 19-29	Pacific International Trade Fair (01-681 7688)	Lima
Nov. 24-29	Oil and Gas Industry Equipment and Services Exhibition (01-438 8200)	Mexico City
Nov. 29-Dec. 7	Antiques Exhibition—ANTIQUA (01-540 1101)	Berlin
Dec. 8-12	International Machine Tool and Woodworking Show—METALASIA (01-486 1851)	Singapore

## BUSINESS AND MANAGEMENT CONFERENCES

Date	Title	Venue
Nov. 3-4	FT Conference: Investment in Malaysia (01-621 1355)	Kuala Lumpur
Nov. 4	Gwilym Jenkins: Forecasting For The City (0828 61831)	Clifton Ford Hotel, W1
Nov. 5	Abacus: Health and Safety in the Printing Industry—Reducing the Risks: Avoiding Confrontation (0604 851300)	Mount Royal Hotel, W1
Nov. 5-6	MTC: The Skills of Interviewing (0633 27062)	Leicester
Nov. 6-7	Graham and Trotman: Argentina and Chile—New Business Opportunities (01-243 6351)	Hilton Hotel, W1
Nov. 11	Oyez-IBC: Food Law for the 1980s (01-242 2481)	Princess Anne Theatre, BAFTA, W1
Nov. 12	Royal Statistical Society: The Wilson Committee review of the functioning of financial institutions—some statistical aspects (01-723 5882)	London, WC1
Nov. 13	London Chamber of Commerce: UK/Soviet trade conference (01-248 4444)	69 Cannon Street, EC4
Nov. 13-14	Keplinger and Associates: Symposium on Oil and Gas Investing and Financing (01-584 4351)	London, WC1
Nov. 13	IPM: Industrial Relation Law (01-387 2844)	London, WC1
Nov. 14	Gower: Choosing and Using an Insurance Market (01-240 5831)	Waldorf Hotel, WC2
Nov. 17-18	AMR International: Using Advanced Techniques in International Mechanics (01-262 2732)	London Press Centre, EC4
Nov. 17	Institute of Directors: The Common Market (01-539 1233)	Pall Mall, SW1
Nov. 18	Heliotechnic: Educational Opportunities for Marketing and Investment in Solar Energy (01-240 2430)	Pall Mall, SW1
Nov. 18-19	FT Conference: Retail Banking (01-621 1355)	Grosvenor House, W1
Nov. 19	Institute of Directors: Annual Lecture (01-539 1233)	Carair
Nov. 20	Oyez-IBC: Oil and Gas—Accounting Taxation and Financial (01-242 2481)	Royal Lancaster Hotel, W2
Nov. 20-21	FT Conference: Employment in the '80s (01-621 1355)	Grosvenor House, W1
Nov. 24	BCPA: Contracts of Employment (01-405 1023)	Royal Horseguards Hotel, SW1
Nov. 26	IPS: Trading with China (0990 23711)	Tara Hotel, London
Nov. 27	Gower: Conferences: How to develop and launch new industrial products (01-240 5831)	Clare Royal, W1
Nov. 27-28	AMD: The Leadership Course (07535 56047)	Gloster Hotel, SW7
Dec. 4	Business Perspectives: The Brandt Report—Implications of International Business and Finance (01-584 3132)	Royal Lancaster Hotel, W2

Anyone wishing to attend any of the above events is advised to telephone the organisers to ensure that there has been no change in the details published.

## Financial Times Conferences

## RETAIL BANKING

Grosvenor House, London—November 18 and 19, 1980

A two-day conference to explore opportunities in retail banking, particularly in the United Kingdom personal banking market where between 40 and 50 per cent of the adult population still lacks a cheque account.

The competition for the personal saver will be discussed by Mr. J. A. Brooks, Director and Deputy Chief General Manager, Midland Bank Limited; Mr. M. Fry, General Manager—Marketing and Planning, Abbey National Building Society; Mr. T. Bryans, Chief General Manager, Trustee Savings Bank Central Board.

## EMPLOYMENT IN THE 1980s

Grosvenor House, London—November 20 and 21, 1980

The prospects for job creation in the present economic climate will be examined at this conference by the Rt. Hon. Lord Lever of Manchester; the Rt. Hon. John Silkin, MP, Principal Opposition Spokesman for Industry; and Mr. Alan T. Sutton, Executive Director—Industry and Investment, Welsh Development Agency.

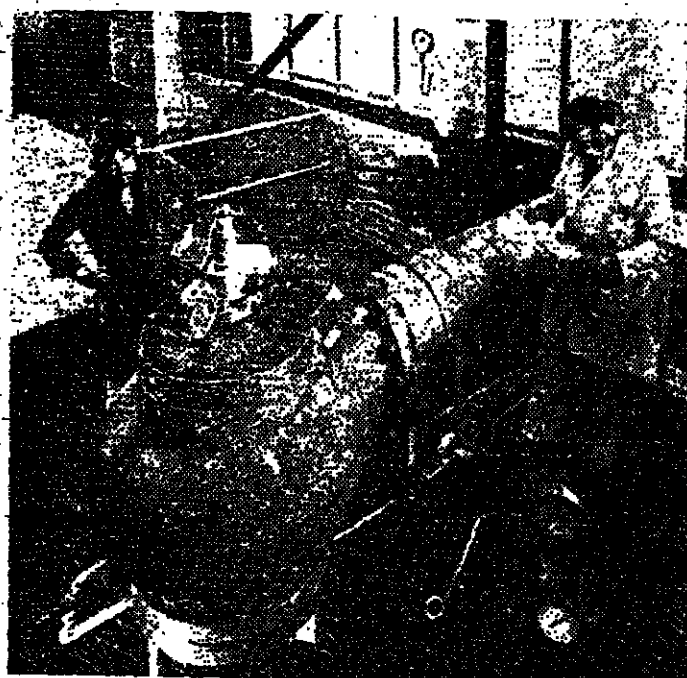
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# Technical Page

EDITED BY ARTHUR BENNETT AND ALAN CANE



Engineers at the Skelmersdale, Lancs, plant of Dewrance, carrying out steam tests on a pilot-operated safety-relief valve for a nuclear power station. The company says it has major orders for high pressure valves and boiler mountings for nuclear plants under construction in France, America, South Korea and Spain. New orders, worth in total more than £2m have been won for valves for power station work in India and for fertiliser plants in Rash Taya.

## Searching for the sweet sound of success

BY ELAINE WILLIAMS

"WE CAN turn your living room into the Albert Hall," says Mr. John Hayes, director of a small hi-fi manufacturer, IMF Electronics.

After 10 years' research and 127 patents, the company believes it has developed a hi-fi system called ambisonic surround sound which will make ordinary stereo hi-fi sound as primitive as Edison's tin foil phonograph seems to us today.

Now the company, which earns its living manufacturing loudspeakers and which exports over 70 per cent of its output, is looking for a bigger partner to share in its discovery.

Mr. Hayes explained that with conventional stereo, sound has little depth because it comes from only two speakers in front of the listener.

With the IMF system, the listener is surrounded by at least four loudspeakers. Mr. Hayes said: "We can produce the illusion that a room is bigger than it really is; it would sound like the Albert Hall if the piece of music was recorded there."

More than £100,000 has been spent by the National Research Development Corporation to help IMF develop surround sound. Much of the basic research was carried out by Dr. Peter Fellgett and Geoffrey Barton at Reading University

and Dr. Michael Gerzon at Oxford University.

A significant amount of the NRDC money has been spent on protecting the design with patents throughout the world. Mr. Peter Tanner who looks after the project at NRDC said: "If we can get the system adopted world-wide it has the potential to be a vast business like stereo."

In Britain, the BBC carried out successful trial broadcasts using the surround system (which it calls UHJ) in 1977. But there will be no permanent surround sound broadcasts until it can secure union agreements.

Surround sound records are made in exactly the same way as conventional records and can be played on normal stereo equipment. During recording only one specially designed microphone is required. This has been developed by Calrec Audio in Yorkshire, which makes conventional microphones for the BBC and has worked closely with IMF on surround sound.

This microphone picks up the sound in the recording studio and turns it into the four separate signals which are needed for the surround sound effect. These are then digitally encoded and compressed by a complex mathematical formula into only two signals which are

recorded and used to make the stereo disc.

In order to play back the sound, a decoder picks up the coded stereo signals from the stylus and turns this back into the four separate signals which are then fed through amplifiers to the four loudspeakers. Extra speakers can be added if required.

The effect, even to my tone deaf ears, was impressive. Special effects, such as turning orchestras upside down, can be created during the recording process.

So far, only two small recording companies, Nimbus and Unicorn, are using the system to produce high quality stereo discs. Many are classical selections of Chopin, Debussy and Beethoven. However, IMF is also releasing some jazz records, the first of which is called "Beginnings" by the Reformation Dixieland Band to appeal to a wider audience.

With the surround sound decoder and two extra loudspeakers conventional stereo records can be played to give an improved sound effect which IMF calls "super stereo."

The NRDC hopes that the Federal Communications Commission, which regulates broadcasting in the U.S. and the European Broadcasting Union will both accept surround

sound as an international standard, following successful demonstrations this year in Chicago, Dusseldorf, Amsterdam and Brussels. But no decision has yet been made.

Most of the major recording and hi-fi manufacturers are known to have looked at the possibilities of surround sound but have not indicated that they will adopt the system. This is due to several factors including the downturn in consumer demand caused by the recession and new developments such as the video disc—which may be more attractive in the long term.

So, for the moment, IMF Electronics and the NRDC are left to promote the new system on their own. But as a small manufacturer, IMF does not have the resources to manufacture on a large enough scale to make the equipment cheap. It hopes that a company such as Philips will take up a licence to manufacture.

Philips says that for the foreseeable future consumer demand will be satisfied by conventional stereo and although it is keeping "its options open" on new systems it has no plans to introduce surround sound.

The record industry still remembers the unsuccessful attempts during the early 1970s to introduce quadraphonics—

which also compressed four sound signals on to a stereo record. But since the signals were coded in a very simple way, the reproduction did not sound as realistic as surround sound, and there was very little consumer interest.

Radio stations could not broadcast quadraphonics successfully either, as it required four separate radio bands to transmit each of the channels. In the crowded airwaves used by broadcasters only two channels—those used for stereo—could be employed.

Unlike the surround sound system, quadraphonics broadcasts were not compatible with existing mono and stereo broadcasts.

Today a complete surround sound system costs £650: the decoder on its own accounts for £250. Mass production could bring the decoder cost down to only £30.

Mr. Tanner at the NRDC admits that it will be some time before surround sound catches on. He said that it had reached the stage where some large company needs to "take it up in a bigger way."

Stereo took more than 15 years to become popular, but if there is any money to be made from surround sound the NRDC believes that the 127 patents ensure that Britain gets it.

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### SECURITY Door will resist blast

OFFERING PROTECTION in high security areas or blast resistant buildings is a strong door system developed by Mowlem (Civil Engineering) of Bracknell, Berks, which says eight of these have been installed in a blast resistant control room at Esso's Fawley Refinery near Southampton.

System is designed to meet Health and Safety regulations laid down by the petrochemical industry and is intended for use in areas where special safety considerations are needed to protect people, plant and equipment, and to maintain the integrity of a building in adverse conditions.

Supplied either with or without automatic equipment the doors come in standard sizes, or specially to order. Automatic equipment is usually pneumatically operated and can be opened manually in the event of power loss.

The doors are said to withstand rebound loadings and remain secure and operable under multiple blast conditions.

### Warning is loud and clear

A DISTINCTIVE and penetrating warning signal is said to be emitted by a new type of audible warning device called the Howler, just launched by Chubb Alarms, 42 Hershaw Road, Walton-on-Thames, Surrey (08322 43851).

Housed in a weatherproof stainless steel box the unit is operated through timing and control circuits connected to a nickel cadmium battery supply and charger unit. The alarm can be used either on its own or in conjunction with remote signalling equipment to police central monitoring stations.

### HEATING

#### Drying-out is speeded

A BUILDING'S finishing stages can be planned and started at any time of the year because of the benefits of a new building dryer, says Westair Dynamics, Thames Works, Central Avenue, East Molesey, Surrey (01-941 1131).

Experience of demanding operating conditions in overseas markets, particularly in Scandinavia, has led to the development of the machine's heat pump circuitry to operate particularly efficiently in its 6 to 35

degrees C range. In fact, says the company, in the extremely difficult drying conditions of 10 degrees C and 50 per cent humidity, the unit's water extraction rate has been improved by over 200 per cent.

Westair's latest model is sturdy but robustly designed with a height of 1140 mm, only 540 mm wide and weighing just 77 kg. This means it presents no problems in being manoeuvred in and out of vehicles, through narrow openings or up and down stairs.

### PROCESSING

#### Keeps a watch on liquid levels in tanks

LEVELS OF toxic, corrosive or crust-forming solutions in tanks, pressure vessels, etc., has always posed problems in many manufacturing industries and, due to the very nature of these substances, many measuring systems have had limited applications due to poor accuracy, risk of corrosion — or even explosion—says Laboratory Impex, Lion Road, Twickenham, Middlesex (01-892 9157).

Promising to satisfactorily overcome these hazards is a new non-contacting and explosion-proof measuring system which has no moving parts and is unaffected by all chemicals and most physical properties of liquids.

This is made by Berthold of West Germany, is known as the LB 300-1 Liquid Level Monitor, and provides a constant readout of vessel contents with an accuracy of within 3 per cent.

The system consists of a very low intensity radioactive source unit and a high sensitivity scintillation counter detector. Both are positioned outside of the vessel but diametrically

opposed to each other. A narrow beam of radiation is emitted from the source and passes through the contents of the vessel. Intensity of the energy reaching the detector is related to its filling level, and a readout is produced via an electronic amplifier. This can be situated at a considerable distance from the detector without loss of accuracy. Careful shielding of the source prevents any contamination danger, and there is no risk of radiation building up in the fabric of the vessel or its contents, it is stated.

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sound as an international standard, following successful demonstrations this year in Chicago, Dusseldorf, Amsterdam and Brussels. But no decision has yet been made.

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### HANDLING Fork lift trucks lifted

EASIER SERVICING of fork-lift trucks is promised with the introduction of a two-speed hydraulic fork lift truck whose low profile design allows it to slide under trucks and which has as little as 2½ ins ground clearance, announces Peel Equipment, The Wye Estate, High Wycombe, Bucks (0494 451111).

Once it is in position the FLJ-400 is said to make fast work of lifting the truck to a height of 16 ins. The higher speed is used until the lift-pad meets the load, and then the jack automatically switches to low speed for easier lifting.

A "walking beam" principle is used for optimum safety and, although it weighs less than 60 lb and has a lifting capacity of 8,000 lbs, the jack is said to handle all types of trucks.

The walking beam design also facilitates the unit's portability from job to job—it can be wheeled on its heavy duty castors or folded flat and carried.

### Mobile heating source

ONLY ONE gallon of paraffin is needed to provide instant heat for three hours with a new high output chassis mounted mobile oil heater claims Wysepower, Drove Road, Everton, near Gamlingay, Sandy, Beds (0767 50011).

Called the 60D model space heater, it provides 60,000 BTU (the equivalent of 17½ kW) and

is suggested for applications where a mobile source of heating is required—garages, aircraft hangars, drying out buildings in bad weather, on construction sites, livestock buildings and greenhouses, etc.

A flame failure safety cut-out switch is standard on the heater which is available for both 110 and 240 volt supply.

### Separates cutting oils from the swarf

A NEW range of swarf and oil separating plant designed for the recovery of cutting oils is entirely automatic, will recover an average of 17 gallons of oil for every 1,000 lb of steel swarf processed and promises a saving of about £35 per 1,000 lb swarf processed.

Based on a novel range of automatic centrifuges capable of processing between 200 lb and 9,000 lb of swarf an hour

the system can handle any type of metal swarf says FSP (Filtration & Separation Products), Gillingham Industrial Estate, Billingshurst, West Sussex (040-381 2741).

Energy imparted to the swarf by the centrifuges is utilised to convey the dried swarf for considerable distances which means that costly conveyor systems are no longer required.

A novel parts separator is

incorporated in the machines so that machined parts that find their way into the swarf are recovered for production.

System is scavenged by high velocity air which enables a single system to be used on different swarfs—for example, aluminium and brass, in quick succession without contamination between the two.

A typical system capable of handling 2,000 lb of steel swarf

an hour would cost around £15,000. This price would include a parts separator and a 100 feet tube system to take the swarf out of a building for decanting into, say, a skip.

Oil recovery a year on a one-shift basis for only five days a week would be in the order of £140,000, says the company, but in addition to these benefits would be the elimination of oil spillage in yards and drains.

## Is gold only for the privileged few?

By no means. For those who don't choose to invest huge sums in hefty gold ingots or 1-ounce coins, there now comes a lustrous alternative from Russia. The Chervonets. One

quarter ounce of pure gold. Over the past 10 years, hardly any investment has had a better track record than gold — a fact that indeed speaks for itself. Far-sighted investors have always purchased

gold. At least with part of their assets, because this precious metal has far more than merely magic appeal. Among other things, gold is scarce. So it is coveted by many. And

that's exactly where the Chervonets really shines. Because at its price, it is no privilege of the privileged few. For giving, too, the Chervonets makes the very finest impression.

As a small, but distinctive, contribution to a loved one's nest egg. And for only a few extra banknotes, you can now even acquire a gleaming Proof quality Chervonets. The coin's limited issue

lends it additional numismatic value. In 1980, only one million were minted for world-wide distribution — including 100,000 in Proof quality. Its price is keyed to current world market rates. Daily.

There's good reason to expect the Chervonets will be the most brilliant investment you ever made.

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# Building and Civil Engineering

## £15m awards to R. M. Douglas

A HOSPITAL development scheme at Morriston, near Swansea tops a list of several contracts totalling £15m awarded to R. M. Douglas Construction. Worth over £10m, the hospital has been designed by the Welsh Health Technical Services Organisation. Consultants are Ove Arup and Partners

and quantity surveyors I. E. Symonds and Partners. In South Wales, at Carmarthen, the company is to build a processing plant for Dalgetty Spillers Agricultural (£830,000) while further north the company is to undertake factory reconstruction at the Whitegate complex. Wrexham

for Morgan Grenfell and Wrexham Maelor Borough Council. Value of the latter contract is £2.2m. Also worth £2.2m is a contract for advance factories at Gateshead for English Industrial Estates Corporation.

## Higgs and Hill win £12m worth

TWO MAJOR contracts totalling over £12m have been won by Higgs and Hill.

The larger of the awards is a £7m contract from the Midland Bank Pension Trust for the construction of an eight-storey office block at Griffin House, in the Strand, London. Due for completion in August 1982, the building will incorporate shops at ground floor level and lower-ground car parking. Jones Lang and Wootton Project Services have been appointed as project managers. The other contract, worth £5m, is from the Prudential Assurance Company for the reconstruction and refurbishment of the CBI headquarters building at 21 Tothill Street, London SW1.

This two-year contract is for a nine-storey air-conditioned office building, and includes construction of new plant rooms and mansard roofs, new lifts, stairs and services, and reconstruction of the front elevation.

## £6.7m dam contract

COSTAIN International has been awarded a £6.7m contract for the construction of the Victoria Dam power station and associated works in Sri Lanka. The project, for the Mahaweli Authority of Sri Lanka, is part of the Mahaweli irrigation scheme and will involve the excavation, by drilling and blasting, of some 250,000 cubic metres of rock and the placing of about 40,000 cubic metres of reinforced concrete.

Consulting engineer for the contract is Sir Alexander Gibb and Partners. Work is due to start in early 1981.

## Preparing for the tourist

ROYAL COMMISSION for Jubail and Yanbu, Kingdom of Saudi Arabia, has appointed consulting engineer Haiste and Partners to improve and develop tourist facilities in the municipality of Hofuf.

Haiste will design and supervise in association with Dorr Trading on the £1.5m project which covers the Ain Najil Spring and the Jebel Al-Qarah Caves. Work at the Spring will provide a new bath house, lodgings, a prayer shelter, food kiosk and service facility buildings. Three ancient dome structures on this site are to be refurbished.

At the Caves, catering, toilet and other facilities will be provided. On both sites, there will be incorporated deep bore-holes for potable water supplies and small sewage treatment plants made by another British company, Simon Hartley of Stoke-on-Trent. Haiste engineers responsible for the Hofuf scheme and other design and supervisory work in Saudi Arabia will be based on the firm's new office in Al Khobar.

## Mowlem is kept busy

SEVEN contracts in the north east of England, worth together £1.75m, have been awarded to John Mowlem and Co.

The largest, worth £420,000, awarded by the English Industrial Estates Corporation, is to design and construct a factory and offices for J. Barbour at Monksway, Simonside, South Shields. Another design and construct contract for the Corporation is at the Tanfield Lea Industrial Estate, Stanley, Co. Durham. Valued at about £300,000 it is for 24 small advance workshops.

Other awards are for the reconstruction of a road embankment and river culvert at Stanley, near Durham (£250,000) and a waste paper processing factory for North East Paper Company at the Thornley Station Industrial Estate, Shotton Colliery (£300,000).

The rest of the contracts include two wells, pumping equipment and water mains at Drax power station (£245,000) and installation of a materials treatment plant for Smiths Dock Company at South Bank, Middlesbrough.

## Pipes ordered by Iraq

CAST IRON drainage pipes and connections are to be supplied to the Iraqi government by Glynwed Foundries of Telford, Shropshire, under a £6.3m order.

The company has been working short time for several months because of the depressed home market and won the contract against strong competition from producers in India, China and eastern bloc countries.

Mr. Gerry Marvin, sales direc-

tor of Glynwed Foundries, told the Financial Times, that the pipes and connections will be used on public and private buildings throughout Iraq. He added: "This new contract follows a £2m order received last April. These orders were the result of many visits we have made to Iraq over the years and particularly the relationship we have built with the Iraqi authorities during the last 18 months. It certainly didn't drop into our laps; we've had to work at it very hard."

## Homes in Nottingham

BRIDGE HOUSING Society has placed a contract worth more than £1m with John Laing Construction for homes for 114 people to be built on a site close to the centre of Nottingham.

Development at St. Mary's Gate comprises 39 bedsitters and 21 maisonettes in a four-

storey terrace plus four terraced houses all grouped round a central open space.

Contract includes site roads, footpaths, parking areas and landscaping. Construction will be of traditional brick and blockwork cavity wall with timber-framed top floors to houses and maisonettes.

## Busy in the City of London

BOOSTING ITS present workload are contracts worth over £5.5m awarded to Ashby & Horner, with three projects being undertaken in the City of London.

Refurbishment work for Williams & Glyn's Bank includes converting 23-25 Charterhouse Square into a new clearing centre at a value of £3.2m.

Watling Street Properties have awarded nearly £4m for refurbishment at 8-10 Queen Street, EC4, and a third similar project is at 50 Leadenhall Street for Gleniffer Finance Corporation.

Work outside the City includes a new branch for Halifax Building Society in Kibbura High Road, and a £200,000 branch for an assurance company in Watford, Herts.

## Reclaiming the land

THE LARGEST single contract for land reclamation ever awarded by Telford Development Corporation will take about 70 weeks to complete and work on phase one of the scheme has been awarded to Tarmac under a contract worth more than £1m.

Open space, playing fields and landscaped areas are included in the project which will cost a total of £1.8m to complete. The 175 acres involved will be temporarily restored as grazing land to be held in reserve for possible future housing development.

## IN BRIEF

● Fairclough Building will modernise 90 council houses and flats in the Booth Hall Road area of Blackley, Manchester, under a £550,000 contract scheduled to take 32 weeks to complete.

● Sponsored homes for up to 50 families are being built at Andover, Hants, by E. Rendell and Sons (Lovelace Group) under an £832,000 development programme being carried out in partnership with Test Valley Borough Council.

● Turfitt Construction has won a £500,000 contract to build 29 flats for senior citizens for MHA Housing Association at Boswell Parkway, Edinburgh.

● English Industrial Estates Corporation announces that work has started on a number of advance factories. Two terrace unit types are to be built for the Department of Industry on the Gilmere Estate, Liverpool, by Boskalis Westminster Construction under a contract worth £850,000; a similar contract, worth £108,000, has been awarded to Kearton and Sons by the Development Commission at Halkwell, Northumberland; another is worth £128,000 to E. L. Greening and Sons for the Development Commission at Tavistock, Devon.

● Humphreys and Glasgow Services has been awarded a £385,000 contract by the North Tyneside MBC for the modernisation and conversion of 44 flats and external works of Phase II South Meadowvale, North Shields.

● A contract, worth over £1m, has been won by the TONY Group involving alterations at the Yorkshire Electricity Board's commercial centre in Geldard Road, Leeds.

## Housing in London

BOVIS CONSTRUCTION announces it has taken over from another contractor the completion of new homes for about 1,067 people under a £3m contract at Broadway Market, Pownall Road, Hackney for the Greater London Council.

The dwellings are being built in 28 blocks ranging from single to four-storey in height. Blocks comprise 115 two-person homes,

96 four-person homes, 69 five-person homes and 18 six-person homes. Construction is of traditional brickwork cladding and slate roofs on concrete foundations and all homes will be centrally heated.

External works include estate roads and footpaths, services and drainage. Completion is due in December 1982.

## £4m service contract

THE MECHANICAL and electrical building services contract on MEPC's development at Long Acre in Covent Garden has been awarded to Andrews-Weatherford.

This is worth over £4m and covers the working design and installation of all air conditioning, ventilation, heating, hot

and cold water, plumbing, electrical and fire protection services, etc. Work has already started and the building is due for completion in June 1982.

Architect is R. Seifert, structural consultant Ove Arup and Partners, service consultant Jaros, Baum and Bolles of New York, and main contractor Sir Robert McAlpine and Sons.

## Converting a flour mill

CONTRACT FOR the conversion of the existing 19th century Thames Tunnel Mills at Rotherhithe, SE16, valued at £2.1m has been won by Eve Construction.

This five-storey flour mill — badly damaged by fire some years ago — lies about one mile from Tower Bridge in a conservation area and is to be converted into single person accom-

modation for 119 people. There will be 71 flats together with communal common room, laundry room, roof gardens, conservatory and riverside balcony.

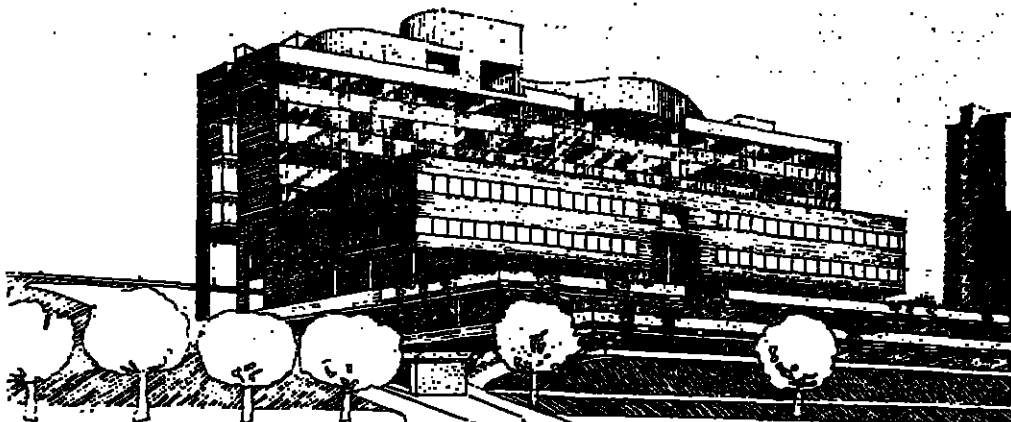
Existing roofs, floors, internal walls, beams and columns will be demolished to ground level retaining only the external walls, main cross and core walls, water tower and brick chimney

## Structural steel orders

AN ORDER for the fabrication of structural steel totalling 750 tonnes for a salt water intake structure and two pipe racks at Raz Ranuf, Libya, has been obtained by S. W. Farmer and Son.

The company is also to fabricate 1,000 tonnes of conveyor steelwork and towers for an alumina calcination and storage plant at Aughish Island, Eire.

Farmer Plant Engineering is to carry out a contract for the supply and erection of 200 tonnes of ducting for a waste heat recovery system at Gr-nomouth refinery, while S. W. Farmer (Leeds) will be fabricating and erecting 500 tonnes of structural steel for a warehouse complex for English Industrial Estates Corporation at Team Valley, Grangemouth. Total value of these orders is £1.6m.



An impression of Snamprogetti's new headquarters to be constructed on a site near the town centre, station and bus depot in Basingstoke, Hants. The development will be on a 13 metre slope which lends itself to a tiered design and ensures that 200 of the 450

car parking spaces will be under cover. Building will be bricked with contrasting curtain walling, and the podium and roof of the complex will be landscaped with lawns and roof gardens. Tenders are being submitted for various stages of the construction which will be in the £7-£10m range.

## Henry Boot contracts

THE second phase (36,000 sq ft) of the Huntingdon town centre development scheme has been awarded to Henry Boot by the Arrowcroft Group. This £750,000 contract includes the demolition of some buildings and the refurbishment of a three storey unit.

A further 12 two-storey shop units will complete the mall formed by the first phase, and an extension to the existing shoppers' car park will be provided over the shop units at roof level. This will include a staircase tower and link bridge to the existing car deck of adjoining premises.

Another £750,000 contract (awarded by Matthew Hall

Ortech) is in connection with a coal handling facility at Blyth power station in Northumberland.

Scheduled to allow plant operation by late 1981 the contract involves the construction of an unloading hopper for rail-borne coal; tunnels for conveying foundations for conveyor trestles, bunker and weigh-bridge, and a reclaim facility. Henry Boot has also won contracts for window replacements in flats and maisonettes at Torryglenn, Glasgow, for Glasgow District Council (£275,000) and for an effluent plant at the Prudhoe, Northumberland works of Kimberley-Clark.

## Hotel job awarded to Lesser

FOURTH CONTRACT awarded to Lesser by Anchor Hotels for the design and construction of an extension and refurbishment to the Hunting Lodge Hotel, Larkfield, near Maidstone, Kent, is worth £725,000.

This will add a further 44 bedrooms each with private bathroom, and new work includes refurbishment of nine existing bedrooms plus provision of new bathrooms, kitchen facilities, conference rooms, staff accommodation, enlargement of the restaurant, bar redecoration and external works and drainage.

## Inspection made easier

MAIN GENERATOR propeller of a hydro electric plant in Ghana is much easier to maintain and inspect since the provision of a platform made from Climacool equipment, reports Stephens and Carter from Kpong, Ghana.

Chief problem here is that the equipment must be assembled three-quarters of the way down the main shaft, and sit on brackets fixed on the sides of the shaft itself, says the company.

It was necessary to provide a lightweight assembly unit that

could be broken down into small, handleable pieces capable of fitting through a 750 mm by 1,000 mm opening, for erecting under the main propeller.

The company says it designed the platform from Climacool equipment with an overall area of about 12 metres for contractor Bovis. Standard and special units were fitted together to form a platform directly under the main propeller and sitting on large steel beams which in turn were fixed on to the sides of the main shaft.

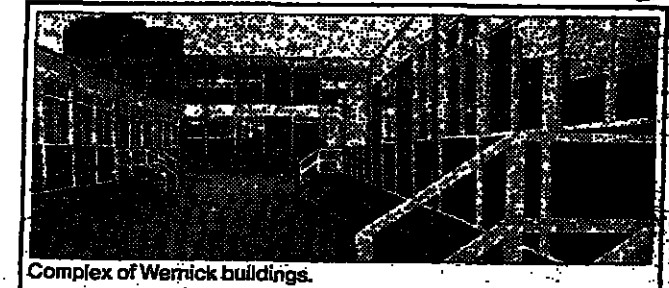
## Nigerian port project

WORK ON the huge Port Onne ocean terminal project 25 km south of Port Harcourt in Nigeria is now well under way says Royal Volker Stevin. When completed, it will be the country's deepest sea-port with over 50 berths capable of handling bulk cargo of over 50 to 60 thousand tonnes capacity for the import of coaling coal and iron ore for the Asokuta steel mills and the export of Nigeria's coal.

Over 300 hectares of mangrove swamp are being cleared to provide the necessary office, workshop and manufacturing facilities, and a new village is being built to provide both temporary and permanent accommodation for the Nigerian Ports Authority as well as for Volker staff. Reclamation of the port area will then commence.

Construction work comprises six quays each 250 metres long, three of which are for general cargo and one each for ro-ro traffic, container traffic and bulk cargo; buildings for warehouses, transit sheds, workshops, stores, offices, customs and port services; infrastructural works; water supply, treatment and distribution; and construction of roads, railroad, parking and storage areas.

## WERNICK System Buildings



Top quality system building — that's "Wernick built!" Whether it's a fine two-storey office block, a multi-function sports complex, a hospital ward or a Scout headquarters. Versatility has made Wernick Britain's largest independent system buildings manufacturer, based on providing the right building, at the right price at the right time — tailor-made!

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## THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

## The acceptance of Robert Fleming

Michael Lafferty on the merchant bank which has joined the City of London's inner sanctum

ON TUESDAY last week one of the most exclusive clubs in the City of London issued a rare public statement. It was very brief: "The Accepting Houses Committee announces that Robert Fleming and Co. Limited has accepted an invitation to become a member of the committee."

No further explanation was offered. Nor was it necessary. Robert Fleming, better known for his fund management business than his banking expertise, had arrived. It is now officially part of the inner establishment of the City of London.

Outsiders unfamiliar with the quaint ways of the City must wonder what it all means. Upon inquiry they will learn that the Accepting Houses Committee was formed by a group of leading London merchant banks on Wednesday, August 5, 1914, shortly after the outbreak of the First World War. Before the war there had been much trade between Germany and Britain. As a result there were many bills of exchange, or acceptances, outstanding which were unlikely to be met.

Little is known about that first AHC meeting, but it is presumed that after appropriate discussion the chairman called on the Governor of the Bank of England who, in the best traditions of the City, no doubt welcomed the new club, and offered it the Bank's support.

Whether or not any of the AHC members needed help at that time is not entirely clear. Suffice to say that the AHC was founded at a time of crisis for the nation.

Over the years its membership has changed and today it numbers 17 banks, each with a seat on the committee. New members are not admitted every day — the last was Singer and Friedlander in 1973.

To be invited into the club Robert Fleming had to be British-owned, of high repute, with a substantial acceptance business, and independently

Robert Fleming dates from 1873 when a Dundee-born Scot of the same name set up the first ever Scottish investment trust. Several others followed, and the business moved to London in 1890. Mr. Fleming soon became a manager or director of many Scottish and English investment trusts, and was influential in investing considerable sums into North American railroads, oil and cattle.

Investment trust management remained Fleming's main activity until the 1950s when it became involved in the establishment of a number of unit trusts. In particular it was instrumental in forming the Save and Prosper Group, the largest UK unit trust group. Together with close associates, Fleming now has a 26½ per cent holding in Save and Prosper and provides the group, which is based in

the same building, with research.

Fund management was taken a stage further in the 1960s when Fleming began to seek clients from among pension funds and other institutional investors. This was the most rapidly growing area of the whole business in the past decade.

Diversification away from fund management can probably be traced back to the late 1960s. First came a corporate finance department and then a move into mainstream banking was made a few years ago when the 1979 Banking Act appeared on the horizon.

Fleming established a foreign exchange desk about a year ago, and it also has a Eurobond trading desk.

Another feature of more recent expansion has been a physical presence in overseas investment markets. Most important was the crea-

tion in 1970 of a joint venture company, Jardine Fleming, with the Jardine Matheson trading group of Hong Kong. Jardine-Fleming has offices in Tokyo, Singapore, Manila, Kuala Lumpur and Jakarta. Fleming's only other overseas office is in New York, where last year it moved a stage further with the formation of a joint venture with Rowe Price, a U.S. investment management company.

Altogether, these different activities earned Robert Fleming over £8m pre-tax in the year to March 1980. Some £2m of this came from the banking side; a further £2m came from the unit trust business. Advisory and research activities brought in around £1m, while the Jardine Fleming profit share was also £1m.

The Fleming group itself employs almost 350 people; Jardine Fleming accounts for a further 130.

capital is understated, and may smooth results from one year to the next.

This latter facility is interpreted in different ways by accepting houses. Some, like N. M. Rothschild, take the view that there is no point in publishing any profit figure, other than the amount of the annual dividend. Others, like Kleinwort Benson, like to publish figures which reflect "a trend".

Either way the accounts of the accepting houses have a low credibility rating. To this extent their managements are protected from the same degree of outside scrutiny for their successes and failures as are other companies.

Robert Fleming now finds itself in the odd position of being the only accepting house which is required by law to publish true and fair accounts. This is because it was formed and run as a fund management com-

pany until recently, and only became a recognised bank a year ago.

Not wishing to upset anyone Fleming refrained from asking for exemption from filing accounts as required under the Companies Act until it became an accepting house. But now that it is in the club, it has made its application to the Department of Trade. The outcome will be of some interest, since the Government is not known to have granted any accounting exemptions since 1969.

So it is clear that being an accepting house brings a bank certain benefits at the present time. These are both tangible, as related above, and intangible, in the nature of added prestige. On top of all this, the chairman of each accepting house is said to have direct access to the Governor of the Bank of England — a facility which is not available to all banks in the City.

But does any of this matter? Some people in the City take the view that the AHC is an out-of-date idea, that it is just another example of the clubs which divide British society, and that in any case it is becoming increasingly irrelevant. Many clearing banks, for example, have little time for the elitism of the accepting houses.

There seems little doubt that the significance of AHC membership has been somewhat in decline in the past decade. Now the Bank of England is in the process of reconsidering the whole question of whose bills should be eligible for rediscount.

Again, looked at from the point of view of its total membership, the AHC is a mixed bag. It contains a handful of major names in the market-place. These include banks like Kleinwort Benson, Warburgs, Morgan Grenfell, Schroders, Hill Samuel, Hambros, and maybe one or two more. But many of the other members are so small

as to go virtually unnoticed in the City from one year to the next.

On this basis Robert Fleming certainly deserves to be in the club. Its balance-sheet with total assets of £223m puts it slightly above Rea Brothers and Arbutnot Latham in size.

More to the point, perhaps, is Fleming's pre-eminence in the field of fund management, one of the three traditional areas of activity of the accepting houses — the others being corporate finance and banking. At present it has funds totalling some £3.5bn under management or advice. In addition Jardine Fleming, its joint venture with Jardine Matheson in Hong Kong accounts for a further £2bn. These figures show that Fleming is certainly one of the largest fund managers among the accepting houses.

It may be presumed that this is because it is an above average performer in this field. About a year ago Rowe Price, one of the larger U.S. fund managers, entered a joint venture with Fleming to offer international fund management services to U.S. funds, particularly pension funds, seeking international diversification. Evidence to date suggests that Rowe Price-Fleming is more than holding its own against some of the older accepting houses which have also entered this market.

One feature of Fleming's success in fund management could well be its concentration on research. Some 25 executives are currently engaged in this, and there is evidence that their abilities extend beyond those of some other banks operating in the international fund management field.

For example, Fleming's research material shows fairly clearly that it has an expertise not just in judging currencies but also an ability to judge companies in the same industry on an international basis.



Bill Merton, chairman, and Joe Burnett-Stewart, deputy chairman, of Robert Fleming

Corporate finance, or the provision of advice to companies on their financial affairs, and takeover bids and deals, is another area where Fleming has been getting a name for itself in recent years. A decade ago it had only a handful of clients. Today the figure is closer to 70, and includes major companies like Distillers and Tarmac.

With two of the three traditional activities of the accepting houses already under its wing, it was only logical that Fleming should get into banking, and in particular into the business of accepting bills of exchange — an activity which helps to distinguish the top merchant banks.

The idea was to take account of the different characteristics of companies and provide a more even opportunity for buyers in any size of company to emerge at the top.

Hackett was the winner of the middle category, as well as being overall winner. Winner of the biggest company category was Helen Laurence, area buying manager for West Africa with the Crown Agents, while the winner of the smallest company category was Keith Blakey, purchasing controller at Stanley Power Tools, Cramlington.

Nicholas Leslie

## Business courses

International Capital Markets—the opportunities in London without exchange controls. London. November 25. Fee: £120 (plus VAT). Details from European Study Conferences, Kirby House, 31, High Street East, Uppingham, Rutland, Leicestershire, LE15 9PY. Copyright Protection in Industrial Designs, London. December 4-5. Details from European Study Conferences, Kirby House, 31 High Street East, Uppingham, Rutland LE15 9PY.

Sending People Abroad. Bahrain. December 13-15. Fee: £425. Details from ORC (UK), 1 Albemarle Street, London W1X 3HP. Advanced Management Accounting. Bradford. December 7-12. Fee: £310. Details from Course Secretary, Finance and Accounting Programmes, University of Bradford Management Centre, Heston Mount, Keighley Road, Bradford, West Yorkshire BD9 4JU.

"I SEE purchasing as a profit centre. Any money saved goes straight to profit." This is the view of Lindsay Hackett, senior buyer of Control Data, the UK computer and computer services subsidiary of the U.S. company of the same name.

Certainly Hackett can vouch for the profitability of purchasing in a personal sense since his knowledge of the business has just won him a £1,000 first prize in a "Buyer of the Year" competition.

Purchasing is still something of a Cinderella profession in industry. Yet, as the Institute of Purchasing and those in the

business are increasingly arguing, the potential for savings is enormous. Frequently a purchasing department is responsible for 50 to 60 per cent of a company's total costs, so billions of pounds a year are being spent by such departments. Even if only 1 or 2 per cent of a company's purchasing bill is trimmed in a year the impact at the profit level can be significant.

Hackett is the fourth winner of a competition which was instigated in 1977 and, at 24, is the youngest. He is also tycoon of the newer breed of industrial buyer, having entered the business with a degree in

## Winning ways of buying

economics from Warwick University. From there he joined EMI for two years before moving to Control Data 14 months ago. There, he is helping to co-ordinate the buying of equipment to the value of between £7m and £8m a year.

As the requirements of purchasing in many industries become more specialised and complex, so the demands are increasing for greater professionalism. And, as Frank

Holloway—managing director, finance and supplies, the British Steel Corporation—pointed out when presenting the Buyer of the Year prizes, over 60 per cent of people now passing the Institute of Purchasing's exams have done higher education of some sort, gaining degrees or Higher National Certificates.

The Buyer of the Year competition is sponsored by the Ravensdown Group, a privately-owned group of steel and alum-

inum stockholding companies whose chairman and managing director, Bryan Duffield, started his working life in the purchasing department of a small company.

Until this year, the competition made no distinction as to the size of company that entrants worked for. This year, however, it was split into three categories: companies with less than £5m turnover, between £5m and £50m; and over £50m.

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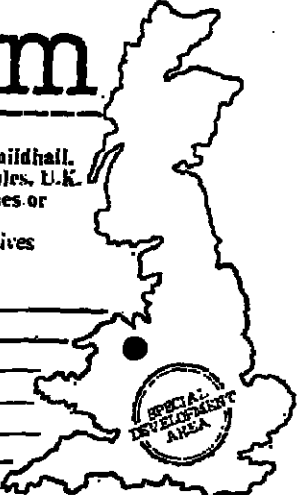
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# FT Monthly Survey of Business Opinion

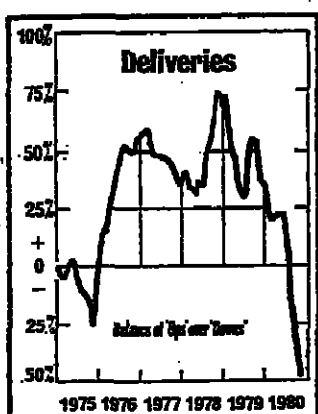
## GENERAL OUTLOOK

### Slightly less pessimism

THE COMPANIES quizzed in last month's survey—in non-electrical engineering, chemicals and oils and the shipping and transport industries—reported slightly less pessimism about the business outlook than when they were last questioned in June.

The index covering general confidence about prospects has thus risen from the very depressed levels of the last two months. This seems, however, to reflect special factors rather than a general turnaround in industry's forecasts about the future, which remains heavily tinged with foreboding.

One reason for slightly



greater optimism was the feeling that the recession was bottoming out and that the economic position could hardly get worse. But low demand, high interest rates, the high exchange rate and the situation in the Middle East continued to weigh on confidence.

Chemical companies have been particularly hit by the downturn in world trade. The bleak industrial outlook was also reflected in a further drop in the index covering optimism about prospects for the UK economy. This had been fairly buoyant earlier in the year. Chemicals and oils were particularly gloomy about the domestic position.

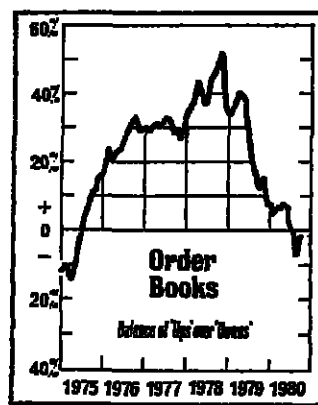
## ORDERS AND OUTPUT

### Steep drop in demand

ALL THREE sectors reported a steep drop in new orders as a result of the deepening recession. The index covering orders received over the past four months plummeted to a record low.

The sharp downturn in demand was also reflected in a steep decline in recent deliveries. Partly because of the low level of recent orders, companies on the whole said they expected order books to increase in size from present levels.

Among factors bemoaned by individual groups, the engineering companies said lower orders from nationalised industries and constraints on capital



investment were hitting demand.

The chemical sector complained of competition from imports made from cheaper energy sources and general de-stocking by distributors of consumer chemicals on account of high interest rates.

General price cutting, particularly for passenger traffic, a drop in oil shipments caused by the Gulf war and declining iron ore deliveries because of the steel recession, were all cited as severe depressants in the shipping and transport industry.

Plans for increases in output over the next 12 months have been scaled down drastically in all sectors.

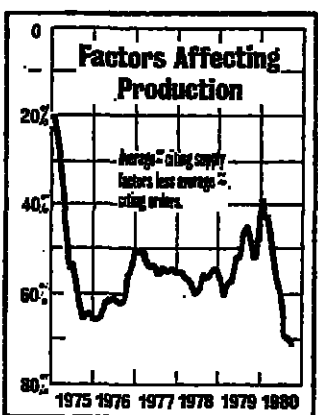
## CAPACITY AND STOCKS

### Well below planned working

MOST COMPANIES are still working well below planned output levels. The index measuring capacity utilisation, which has been falling steeply this year, fell slightly further last month although the drop seems to be levelling off.

All three sectors say the recession is impeding efforts to plan ahead. Nearly half the companies questioned last month said they had plant or machinery standing idle because of weak demand.

More companies are reporting that production is being affected by demand shortages rather



than lack of labour or materials. The shipping and transport sector was rather more hopeful about relief from higher exports in coming months. But the high exchange rate is seen generally as a dampener on chances for foreign sales—particularly in the price-sensitive oil and chemical industry.

Respondents indicated that they are running down stocks to conserve cash, continuing the trend of previous months. This has brought some adjustment of stocks to more favourable levels, particularly for chemical concerns.

## CAPACITY WORKING

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Above target capacity	2	4	5	6	—	—	—
Planned output	34	34	39	50	35	28	43
Below target capacity	59	59	55	43	59	58	49
No answer	5	3	1	1	6	14	8

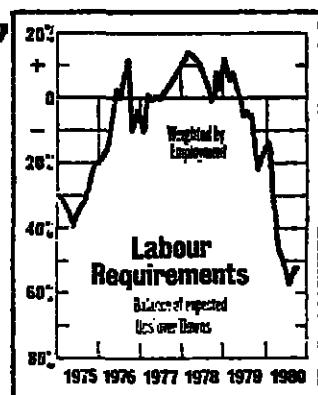
## INVESTMENT AND LABOUR

### Further drop in capital spending

INDUSTRY IS continuing to cut back sharply its future plans for capital investment as the recession bites into business confidence.

The engineering and chemical and oil sectors were especially inclined to cut back on investment spending, although shipping and transport was less gloomy. The investment intentions index has been plummeting steeply practically every month this year.

Plans for new factories, office blocks, development of an oil field and acquisitions of vehicles



and ships have all been axed, according to the respondents. The index measuring companies' planned labour requirements, which has been declining fast in recent months, stabilised slightly last month.

The engineering, chemical and oil sectors were all more inclined to expect their workforces to decrease. But the shipping and transport group, which had been particularly pessimistic about labour force prospects when last asked in June, generally expected no further cuts.

## COST AND PROFIT MARGINS

### Smaller wage rises expected

COMPANIES' expectations both of increases in wage costs and of planned price rises have been revised downwards as a result of the drop in demand and output.

index for the median expected increases in hourly wage rates over the next year has fallen nearly 1 percentage point to 14 per cent.

There has been a similar drop in expectations about increases in unit costs.

All three sectors forecast smaller price increases over the next 12 months than they had done last June. The figure for the median expected increase has dropped to about 12½ per cent from above 13 per cent.

Partly because of the slowdown in cost increases, companies were more hopeful of increasing profit margins during the next 12 months. This index showed an increase for the first time since April.

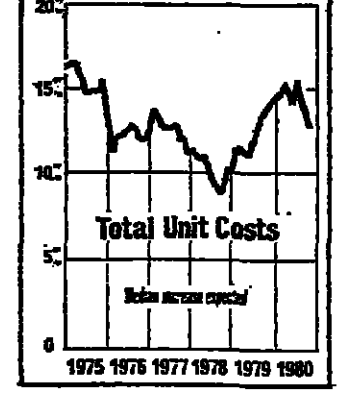
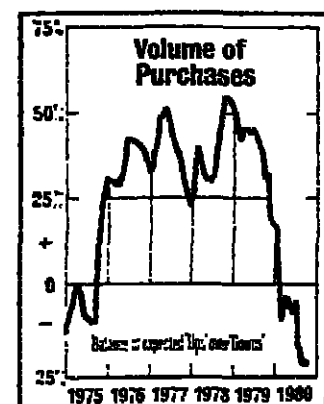
The business opinion survey is carried out for the Financial Times by the Taylor Nelson Group and is based upon interviews with senior executives.

Three sectors and some 30 companies are covered each month in turn. They are drawn from a sample based upon the

FT Actuaries index which accounts for about 60 per cent of all public companies. The all-industry figures are four monthly moving totals

covering 120 companies in 11 industrial sectors (mechanical engineering is surveyed every second month).

Complete tables can be purchased from Taylor Nelson and Associates, 457, Kingston Road, Ewell, Epsom, Surrey.



## GENERAL BUSINESS

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Are you more or less optimistic about your company's prospects than you were four months ago?							
More optimistic	21	16	15	22	26	21	65
Neutral	25	25	27	33	19	30	9
Less optimistic	54	59	58	45	55	49	26

## EXPORT PROSPECTS (Weighted by exports)

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Over the next 12 months exports will be:							
Higher	51	50	48	48	42	53	88
Same	30	27	21	20	45	20	—
Lower	17	21	29	30	13	17	12
Don't know	2	2	2	2	—	10	—

## NEW ORDERS

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
The trend of new orders in the past 4 months was:							
Up	14	18	25	29	—	—	33
Same	13	15	13	15	6	—	—
Down	59	48	39	29	49	100	49
No answer	14	19	23	27	45	—	18

## PRODUCTION/SALES TURNOVER

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Those expecting production/sales turnover in the next 12 months to:							
Rise over 20%	2	3	3	3	—	—	—
Rise 15-20%	2	2	1	5	—	—	—
Rise 10-14%	5	5	3	2	—	—	8
Rise 5-9%	13	10	9	12	26	28	8
About the same	54	64	64	64	21	21	37
Fall 5-9%	6	5	6	4	14	—	—
Fall over 10%	11	6	6	3	2	30	40
No comment	7	5	8	7	35	21	7

## STOCKS

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Raw materials and components over the next 12 months will:							
Increase	13	12	20	29	6	28	—
Stay about the same	52	56	51	45	35	28	44
Decrease	28	29	25	21	53	30	16
No comment	7	3	4	5	6	14	40
Manufactured goods over the next 12 months will:							
Increase	10	7	13	20	6	28	—
Stay about the same	42	46	44	46	54	30	9
Decrease	20	21	17	13	3	21	—
No comment	28	26	26	21	37	21	91

## FACTORS CURRENTLY AFFECTING PRODUCTION

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Home orders	94	95	91	87	100	100	49
Export orders	56	55	56	49	88	72	49
Executive staff	3	1	2	4	—	14	—
Skilled factory staff	6	8	8	9	6	—	—
Components	1	1	—	1	—	—	—
Raw materials	6	6	6	9	—	—	8
Production capacity (plant)	6	8	8	7	—	—	8
Finance	6	6	5	3	—	—	—
Others	3	4	2	4	—	—	33
Labour disputes	8	8	10	8	6	—	8
No answer/no factor	3	3	5	9	—	—	3

## LABOUR REQUIREMENTS (Weighted by employment)

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Those expecting their labour force over the next 12 months to:							
Increase	6	6	8	8	—	2	—
Stay about the same	35	32	26	30	58	44	99
Decrease	58	60	65	61	42	54	1
No comment	1	2	1	1	—	—	—

## CAPITAL INVESTMENT (Weighted by Capital Expenditure)

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Those expecting capital expenditure over the next 12 months to:							
Increase in volume	22	26	30	29	—	39	—
Increase in value but not in volume	6	10	14	18	—	21	—
Stay about the same	34	23	18	17	36	55	38
Decrease	29	33	33	32	64	5	41
No comment	9	8	5	4	10	1	—

## COSTS

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Wages rise by:							
5-9%	10	6	4	—	68	7	—
10-14%	45	42	28	20	20	51	67
15-19%	31	35	47	62	—	42	—
20-24%	6	10	13	11	—	—	—
No answer	8	7	8	7	12	—	33
Unit cost rise by:							
0-4%	2	2	1	—	—	—	—
5-9%	17	16	8	6	28	—	1
10-14%	33	31	39	38	29	23	11
15-19%	26	32	35	38	32	49	40
20-24%	1	2	3	3	—	—	—
30%	—	—	—	—	2	—	—
Same	3	1	—	—	14	—	—
Decrease	1	1	1	—	—	—	—
No answer	17	15	13	15	9	14	48

## PROFIT MARGINS

	4 monthly moving total				October 1980		
	July-Oct.	June-Sept.	May-Aug.	Apr.-July	Eng. (non-elect.)	Chemicals & Oils	Shipping & Transport
Those expecting profit margins over the next 12 months to:							
Improve	22	19	19	28	—	49	66
Remain the same	38	38	38	30	35	21	23
Contract	32	37	36	35	59	16	—
No comment	8	6	7	7	6	14	11

## APPOINTMENTS

### Newman Industries finance director

Mr. Peter J. Hughes has joined the NEWMAN INDUSTRIES as finance director. Mr. Hughes has been a consultant to the company since August. He was previously finance director of Copeland International.

Mr. G. O'Flynn, chairman and managing director of Severn Engineering, has been re-elected president of THE BRITISH AGRICULTURAL AND GARDEN MACHINERY ASSOCIATION.

Mr. Basil Feldman has been re-appointed to serve a second term as chairman of the ECONOMIC DEVELOPMENT COMMITTEE FOR THE CLOTHING INDUSTRY.

Mr. E. W. Summerville, a director of the electrical division of COURTNEY POPE (HOLDINGS), has been appointed chairman of the company. Mr. L. R. Courtney has retired as chairman and from the Board.

Mr. W. H. Wainwright has been appointed director of syndicates of BANQUE ARABE ET INTERNATIONALE D'INVESTISSEMENT. He comes to BAI from the Bank of America where he was vice-president, head of merchant banking group, Latin America, Caribbean Division.

Wigman Poland has formed WIGMAN POLAND NON-MARINE, which is divided into two divisions, responsible for technical services and production. The Board of the new company is Mr. Clive M. Sasserath, Mr. Kenneth R. Barker, Mr. Michael R. Coombs, Mr. Peter B. Minor and Mr. Trevor J. Roulledge.

Mr. H. V. Walker has become managing director to the PROVINCIAL INSURANCE GROUP. Mr. Walker has held a number of positions within the group and he joined the Board of both Provincial and Provincial Life in 1977. Prior to his new appointment, he had been chief general manager since December 1979.

Mr. Mervin Prince, managing director of Shepherds, Green Mossrooms, has been appointed chairman of the MUSHROOM GROWERS' ASSOCIATION. Mr. Peter Cracknell retires as chairman but remains on the executive committee as chairman of the marketing and publicity committee. The new vice chairman is Mr. Harold Linfield, of A. G. Linfield. Mr. Hugh Barton of Winterwick Mossrooms, has been re-elected treasurer.

Mr. W. L. Young has been appointed chairman and Mr. R. J. Fitchard, managing director, of WELTRON. Mr. J. A. F. Litherland becomes design and development director. Mr. R. K. Jewons, executive director, engineering, and Mr. A. Glasson, executive director, manufacturing, join the Board. The company is a subsidiary of the Weir Group.

Mr. W. Hargrave and Co., stockbrokers of Blackpool, and W. L. B. Hale and Co., of St. Ann's-on-Sea, are to merge on November 10. Partners of both concerns will form the new firm trading under the name of MARGREVE W. HARGRAVE HALE AND CO., with the exception of Mr. D. Rothwell and Mr. J. D. Jones who become associates.

Notice is hereby given pursuant to the Indenture dated 1st August 1980, as amended and supplemented, (the "Indenture") under which the 6% Guaranteed Convertible Debentures, due 1988 (the "Debentures") of Rockwood International, Inc. ("Rockwood") are guaranteed as to payment of principal, premium, if any, and interest by Rockwood Computer Corporation, a Delaware corporation (the "Guarantor").

It is hereby certified that the Debentures are convertible on and after March 31, 1980 at a conversion price which has been increased from \$19.68 per share to \$20.97 per share.

ROCKWOOD COMPUTER CORPORATION  
a Delaware corporation  
October 31, 1980

## Our Eurobanking Services

### in Luxembourg

We are the wholly-owned subsidiary in Luxembourg of Badische Kommune Landesbank, a leading German bank headquartered in Mannheim. Our Eurobanking services include:

## Syndicated Euroloans

In line with prevalent market conditions and specific client needs, we manage or participate in selective international loans arranged either on a fixed-interest basis or as a roll-over credit facility for borrowers requiring a flexible choice of currencies or maturities. Complementing our diversified Eurocredit capabilities in Luxembourg, we are also active in money markets and foreign exchange dealing, as well as fixed-interest security trading. To find out more about our Eurobanking services just contact us at: 9, bd. Roosevelt, P.O. Box 626 Luxembourg-Ville. Telephone: 47 59 91-1. Dealers: 47 59 91-1. Telex: 1791 1792 Credits: 1793

BADISCHE KOMMUNALE LANDESBANK INTERNATIONAL S.A.



# CONTRACTS AND TENDERS

## DEMOCRATIC REPUBLIC OF THE SUDAN SEA PORTS CORPORATION PORT SUDAN DEVELOPMENT—STAGE 2

INTERNATIONAL PUBLIC TENDER FOR  
(A) MAIN CIVIL WORKS CONTRACT,  
(B) EXISTING GRAIN SILO UPGRADING CONTRACT,  
(C) HEADQUARTERS OFFICE BUILDING CONTRACT,  
(D) PRIVATE ELECTRICAL POWER GENERATION WORKS CONTRACT

### NOTIFICATION OF PREQUALIFICATION

Notice is hereby given that Liversy and Henderson, Consulting Engineers to the Sudan Sea Ports Corporation, will receive applications from construction firms from Member Countries of the International Bank for Reconstruction and Development and from Switzerland and Taiwan who are hereby invited to apply for prequalification to participate in the bidding for the works described below at Port Sudan.

#### DESCRIPTION OF THE WORKS

(a) Main Civil Works Contract

- Construction of two new deep-water berths, with associated dredging and reclamation
- Construction of new oil terminal to accept vessels up to 80,000 dwt, with associated dredging and reclamation
- Completion of roll-on/roll-off berth
- Seaward extension of existing Berths 17 and 18
- Redevelopment of land areas behind existing and new quays, including road access improvements and surfacing of open storage areas (about 800,000m<sup>2</sup>)
- Lifting, refurbishing and relaying rail track (about 8,000m)
- Construction of a number of small buildings
- Provision of electrical and other services to new facilities and improvements to existing electrical and telephone services
- Minor civil works in connection with Grain Silo Upgrading

(b) Grain Silo Upgrading Contract

- Upgrading existing Grain Silo import and export capacity
- Provision of new ship loader/unloader
- Extension of import and export conveyors
- Improvement of rail wagon intake system
- Associated electrical work

(c) Headquarters Office Building Contract

- Construction of five-storey office building, comprising two interconnected blocks (floor area about 6,400m<sup>2</sup>)
- Construction of conference hall and cafeteria (floor area about 500m<sup>2</sup>)
- Provision of central air conditioning system (to be carried out by a nominated sub-contractor)
- Construction of an electrical sub-station, including provision of standby generation
- Landscaping works

(d) Private Electrical Power Generation Works Contract

- Provision of standby generation facilities for quay cranes and grain silo complex, and replacement of mercury arc rectifiers ("Top Priority" Works)
- Provision of standby generation facilities to all other existing port electrical systems ("High Priority" Works)
- Improvements to electrical systems in main port buildings ("Medium Priority" Works)
- Improvements to electrical systems in transit sheds and minor port buildings ("Low Priority" Works)

#### FINANCING OF THE WORKS

Discussions between the Government of the Democratic Republic of the Sudan and the International Development Association are proceeding with the object of arranging a Credit that would provide for assistance in financing the cost of the Works.

#### CONSTRUCTION PERIOD

- Main Civil Works Contract: 27 months
- Grain Silo Upgrading Contract: 18 months
- Headquarters Office Building Contract: 24 months
- Private Electrical Power Generation Works Contract: 24 months

#### CONSTRUCTION PROGRAMME

The Main Civil Works will be programmed in a sequence acceptable to Sea Ports Corporation and will interfere as little as possible with the operation of the Port. The Grain Silo Upgrading Works will be undertaken in an operating silo complex and will necessitate close co-operation with the silo operator.

#### CONTRACT CONDITIONS

The Conditions of Contract for all Contracts will be generally to FIDIC (International) Conditions.

#### RETURN OF PREQUALIFICATION DOCUMENTS

Completed prequalification documents shall be returned in a sealed envelope by noon on Thursday, 11 December 1980 to Liversy & Henderson, Albury House, Albury, Guildford, Surrey GU5 9BP, England.

#### ACCEPTANCE

Prequalification shall be at the discretion of the Sea Ports Corporation.

#### PREQUALIFICATION DOCUMENTS

Documents may be obtained from Liversy & Henderson, Albury House, Albury, Guildford, Surrey GU5 9BP, England.

In the case of National Contractors, documents may be obtained from Sea Ports Corporation, P.O. Box 2534, Khartoum.

HASSAN A. HASSAN DIRECTOR OF PROJECTS FOR CHAIRMAN SEA PORTS CORPORATION

## EMPRESA NACIONAL DE ELECTRICIDAD S.A. ENDESA REPUBLIC OF CHILE COLBUN PROJECT TRANSMISSION SYSTEM INTERNATIONAL PREQUALIFICATION

Empresa Nacional de Electricidad S.A., ENDESA, intends to invite tenders during 1981 for the Colbun Transmission System. The Colbun Project entails the construction of two hydroelectric power stations with a combined capacity of 490 MW in its first stage. The Colbun Transmission System, which will represent a significant expansion of the National Grid, will consist of:

- 220-KV Switchyard at Bolbun Substation.
- 220-KV Switchyard at Machicura Substation.
- 500-KV Switchyard at Colbun Substation, including 220/500-KV transformers.
- 500-KV Single-Circuit Transmission Line Colbun—El Rodeo—Alto Jahuel (275 km).
- Modification of the existing transmission line Colbun—Alto Jahuel of 220-KV double-circuit to a single circuit of 500-KV (235 km).
- 500-KV Switchyard at Alto Jahuel Substation, including 220/500-KV transformers.
- Expansion of the existing 220-KV Alto Jahuel Substation.
- Complementary works and equipments.

ENDESA wishes to provide opportunities for private investment and, therefore, intends to invite tenders for the Colbun Transmission System on two alternative bases:

#### ALTERNATIVE 1: CONSTRUCTION

ENDESA will contract, on a turnkey basis, the construction, supply, erection and commissioning of the Transmission System. Bidders will be required to offer finance in support of their bids.

#### ALTERNATIVE 2: CONSTRUCTION AND SERVICE

ENDESA will contract a power transmission service with a concession company, which will construct for its own account and own the 500-KV section of the Transmission System (but not the existing 220-KV transmission line, once upgraded to 500 KV). In addition, ENDESA will erection and commissioning of the remainder of the Transmission System, with finance to be contract, for its own account, with the same concession company the construction, supply, offered by bidders. In evaluating bids, other conditions being equal, ENDESA will give preference to the Construction and Service alternative.

ENDESA invites PREQUALIFICATION applications for either or both alternatives. Applications may be from individual companies or from consortia, but applicants must demonstrate their ability to undertake the design, construction, supply, erection and commissioning of the entire Transmission System.

In the Construction and Service Alternative, ENDESA wishes to receive proposals from applicants as to the form and content of the power transmission service contract between ENDESA and the concession company. This will assist ENDESA in drawing up the bid specifications on an equitable basis.

Under either alternative, ENDESA will invite bids only from prequalified companies and consortia.

PREQUALIFICATION documents may be requested from Monday, 10th of November, 1980 by letter, telex or in person from:

ENDESA  
Jefe Departamento de Estudios para la Construcción  
Santa Rosa, No 76, Piso 11  
Santiago, Chile

In addition, the PREQUALIFICATION documents may be also requested from:

ENDESA's Representative in New York  
One World Trade Center, Suite 5151  
Manhattan, N.Y. 10048, USA  
Domestic Telex: 128203 FOMENTO NYK  
From other countries, Telex: 420722 FOM-UE

Prices for each set of these documents are as follows:  
Spanish version \$3,900 (Chilean pesos), (US\$100)  
English version \$4,875 (Chilean pesos), (US\$ 125)  
Registered air mail delivery of these documents will have an extra charge of \$390 (Chilean pesos) or US\$10 each

The information requested in the PREQUALIFICATION documents must be received by ENDESA not later than January 27th, 1981.

EMPRESA NACIONAL DE ELECTRICIDAD S.A.  
P.O. BOX 1392, SANTIAGO, CHILE  
TELEX: 40491—NDESA—CL

## SIDERURGICA DEL ORINOCO, C.A. SIDOR

INTERNATIONAL PUBLIC BIDDING  
AS IS, WHERE IS

- ITEM 1—Twin-screw passenger ship "Cristoforo Colombo," 28,429 gross tons, built 1954-7. The ship is moored at the premises of Sidor C.A. at Matanzas, Ciudad Guayana, Estado Bolivar, Venezuela, and used since May, 1977, as a hotel accommodation vessel. Classification Lloyd's: + 100 AL + LMC, + Lloyd's RMC, "Accommodation Ship," "Laid Up."
- ITEM 2—Two pontoons: "Gemini Alpha" and "Gemini Beta," 282 gross tons, built 1976-4, moored as above. Classification Lloyd's: + 100 A "Pontoon."
- ITEM 3—Floating bridge, max. trim 10%, Length 129.2 m, width 5.74 m, capacity 32 tons, axle load 8.5 tons, consisting of:
- Two sections length 30.8 m each,
  - Two sections length 34.2 m each,
  - Three floating units 20.0 x 5.0 x 1.5 m each.

#### A. SALE CONDITIONS

- As is, where is.
- Payment by irrevocable letter of credit in the name of Sidor C.A. confirmed by a Venezuelan bank accepted by Sidor and opened at the moment of awarding of the bid.
- Bids should include the offered price for each item and preference will be given to those bids which comprise all offered items. However, bids for individual items will also be accepted.
- The offered items may be inspected by request to Eng. Victor Gallo, No. 407-308 Sidor, Matanzas, Estado Bolivar, Venezuela. Telex: 088-981812, 088-991440, and 088-981527, Telex No. 88374.

#### B. BIDDING REQUIREMENTS

- Each offer should be accompanied by a bidding bond in favour of C.V.G. Siderurgica del Orinoco, C.A. (Sidor) and issued by a bank accepted by Sidor against a value of:

For item 1.0 — US\$200,000.00  
For item 2.0 — US\$ 20,000.00  
For item 3.0 — US\$ 10,000.00

#### C. AWARDED OF THE BIDS

Each item will be awarded to the highest bidder upon the opening of the bids, except for the preference case. (Total bid pointed out in A.3 of sale conditions, in which Sidor will select its most convenient bid.) Sidor allows one week laytime upon completion of transfer.

#### D. OPENING OF THE BIDS

Bids should be forwarded in triplicate with one bid per envelope and will be retained in the bidding committee conference room of the Gerencia de Proyectos y Construcción de Sidor at Matanzas, Ciudad Guayana, Estado Bolivar, Venezuela on the 28th November, 1980 at 10:00 a.m., Venezuelan time.

#### E. RESERVE CLAUSE

Sidor reserves the right to extend or to suspend the bidding process, or to take any other decision regarding the bidding process on its behalf, and in this case, no claims from bidders or third parties will be accepted. In addition, the entire process is subject to the obtaining of the normal Government permits.

## CONTRACTS AND TENDERS APPEAR EVERY MONDAY

For further information

phone

JOHN WISBEY

01-248 8000 Ext. 316

## PLANT & MACHINERY SALES

- ROLLING MILLS  
12in x 30in x 35in wide x 400 hp Four High Reversing Mill.  
5in x 12in x 10in wide variable speed Four High Mill.  
3.5in x 8in x 9in wide variable speed Four High Mill.  
10in x 16in wide fixed speed Two High Mill.  
10in x 12in wide fixed speed Two High Mill.  
6in x 16in x 20in wide Four High Mill.  
150 x 100 mm x 15 hp Two High Tape Rolling Mill.  
110 x 100 mm x 10 hp Two High Rolling Mill.
- 10in x 8in x 75 hp Two Stand. WIRE FLATTENING AND NARROW STRIP ROLLING MILL
- DECOIL FLATTEN, AND CUT/LENGTH LINES (SHEETS)  
1500 mm x 0.5 mm / 32 mm x 10 Ton / 15 Ton Coil.  
1100 mm x 2 mm / 8 mm x 5 Ton Coil.  
1500 mm x 0.5 mm / 32 mm x 15 Ton Coil.  
750 mm x 1 mm / 3 mm x 5 Ton Coil.  
400 mm x 0.5 mm / 3 mm x 2 Ton Coil.
- DECOIL STRAIGHTEN & CUT/LENGTH LINES (ROD).  
32 mm to 16 mm diameter x 2 Ton Coil.  
16 mm to 6 mm diameter x 1 Ton Coil.  
8 mm to 2 mm diameter x 1 Ton Coil.
- SLITTING LINES  
1200 mm x 3 mm x 5 Ton Coil.  
920 mm x 5 mm x 10 Ton Coil.  
920 mm x 2 mm x 2 Ton Coil.  
300 mm x 1.5 mm x 1 Ton Coil.  
36in and 48in Sheet Slitters.
- WIRE DRAWING MACHINES  
6 Block, in line, variable speed (560 mm dia x 25 hp D.C.)  
9 Block, non slip cumulative (610 mm dia x 25 hp A.C.)  
8 Block, non slip cumulative (560 mm dia x 25 hp A.C.)  
6 Block, non slip cumulative (356 mm dia x 7.5 hp A.C.)  
Horizontal Drawblock variable speed (915 mm dia x 75 hp D.C.)  
Horizontal Drawblock variable speed (456 mm dia x 15 hp D.C.)  
Vertical Drawblock (2) variable speed (610 mm dia x 25 hp D.C.)  
13 and 15 Die Cone Type & Spooler, 4500 ft/min (2 machines).  
9 Die Cone Type & Finishing Block, 750 ft/min.
- BAR REELING & STRAIGHTENING MACHINES  
Platt 25 mm to 116 mm capacity.  
Robertson 9 mm to 32 mm capacity.  
Platt 6 mm to 18 mm capacity.
- SHEARS AND GUILLOTINES  
1200 mm x 25 mm Cincinnati Plate Shear.  
510 mm x 16 mm / 50 mm x 50 mm PELS Scrap Shear.  
2.5m x 3 mm high speed mechanical Guillotine, Keetone.
- SHEET LEVELLING ROLLS 920, 1150 and 1850 mm wide.
- HYDRAULIC SCRAP Baling Press, Fielding & Platt.
- FORGING HAMMER 3 cwt, slide type, Massey.
- AUTOMATED COLD SAW, non-ferrous, Noble & Lund.
- ROTARY SWAGING MACHINE, 25 mm capacity.
- 28in COLD SAW, Noble & Lund.

## WEDNESBURY MACHINE CO. LTD.

Imperial Works, Oxford Street, Bilston, West Midlands.  
Tel: 0902 42541/2/3. Telex: 336414.

WICKMAN 6 SP AUTOMATIC 1 1/2in rebuilt to maker's limits.  
WICKMAN 6 SP AUTOMATIC 1 1/2in rebuilt to maker's limits.  
WICKMAN 6 SP AUTOMATIC 2 1/2in rebuilt to maker's limits.  
200 TON AND 450 TON HYDRAULIC PRESSES.  
200 TON MECHANICAL PRESS 6in stroke, as new.  
WEIDEMANN 75 TON TURRET PRESS capacity 120in x 60in x quarter-inch thick 32-station.  
MALMEDIE 4-station COLD HEADDER QP88 excellent.  
MATRIX THREAD GRINDERS.

## ROLLS TOOLS LTD.

154/6 Blackfriars Road, London SE1 8EN  
Tel: 01-928 3131 - Telex: 261771

## AUCTION 'JACKSONS' AUCTION

PLANT AND MACHINERY AUCTION  
WEDNESDAY NEXT, 5th NOVEMBER, NOON  
Entries will include 50 skip and demountable vehicles.  
Many 77/78/79/80 Bedford, Leyland, SED/ATK, Foden SWHL and other types, also TR units and trailers, cippers, box vans.  
Some new vehicles, crallers, flats and tippers, skips.  
View: Monday/Tuesday, November 3/4.  
Private treaty office on site.

Auction site on M5, Junction 2 Island  
midway Wolverhampton-Birmingham  
Catalogues: 021-552 2803 Telex: 336193  
Under cover Refreshments

## COMPANY NOTICES

### Compagnie Financière de Paris et des Pays-Bas

#### NOTICE TO SHAREHOLDERS

The Board of Directors of the Company has decided to distribute an interim dividend for the Financial Year 1980 of F.Fr. 100 nominal (see Settlement of Additional Payments below).

Coupons will be paid at the rate of exchange ruling on the day of presentation.

Bearer Share Certificates  
Against presentation of Coupon No. 173, residents of the United Kingdom will receive F.Fr. 5.54 per certificate of F.Fr. 100 nominal (see Settlement of Additional Payments below).

Coupons will be paid at the rate of exchange ruling on the day of presentation.

Settlement of Additional Payments  
Under the terms of the Double Taxation Convention between France and the United Kingdom, residents of the United Kingdom will receive, subject to completion of Form R4-GB, on or after 15th January, 1981 an additional F.Fr. 3.286 per Bearer Share or F.Fr. 0.16425 per Bearer Deposit Certificate thus increasing their dividend entitlements to F.Fr. 8.825 per share or F.Fr. 0.44825 per Bearer Deposit Certificate.

Holders are advised to submit Form R4-GB at the time of presentation of Coupons and/or Bearer Deposit Certificates. Nevertheless for Coupons detached from securities deposited in a bank in France or the United Kingdom which in absence of proof to the contrary have been paid at the net price of F.Fr. 5.54 per Bearer Share or F.Fr. 0.282 per Bearer Deposit Certificate can be subject to a later repayment up to 31st December, 1980 on production of the above mentioned documents.

Payments in respect of Coupons and Bearer Deposit Certificates will be subject to deduction of United Kingdom Income Tax at the standard rate of 30% unless claims are accompanied by an affidavit.

Coupons and Bearer Deposit Certificates should be lodged with—  
S. G. WARBURG & CO. LTD.,  
Coupon Department, St. Albans House,  
Goldsmith Street, London EC2P 2DL.

From whom appropriate claim forms and further information can be obtained.

3rd November 1980 Compagnie Financière de Paris et des Pays-Bas

### PACIFIC BASIN FUND

At 30th September, 1980, the net assets of the Fund amounted to US\$23,179,364.31 and were revalued by:

Investment Portfolio	22,061,506.44	95.18
Cash in bank	172,086.30	0.72
Accounts receivable	1,662,826.01	7.10
Less: accounts payable	(23,179,364.31)	100.00

The net asset value for each of the 1,250,912 shares outstanding was US\$17.96, which is to be compared with an inception price of US\$10.00 as at 8th February, 1979.

The investment portfolio was geographically distributed as follows:

Australia	21.25%
Canada	21.25%
Japan	21.25%
Malaysia	21.25%
Philippines	21.25%
Singapore	21.25%
United States of America	21.25%

Total 95.18%

Since the inception of the Fund on 8th February, 1979, its operations resulted in an increase in net assets amounting to US\$13,681,377.10.

The above figures are unaudited.

The information set forth above is historical and is not necessarily indicative of future results.

No subscription can be received on the basis of this notice.

Subscriptions are only made on the basis of the Current Prospectus dated May 1979 which will be accompanied by a copy of the latest available annual report and a copy of the latest available semi-annual report. It published after 30th September, 1980.

Copies of the prospectus, Annual Report at 31st December, 1979, and Semi-Annual Report at 30th June, 1980 of Pacific Basin Fund can be obtained—

—The Manager of the Fund, Pacific Basin Fund, 25, rue d'Anzin, 75006 Paris, France.  
—K.C. Alvarado, Tower, Ahmed Al-Jaber Street, Sharjah, Kuwait.  
—Street Seab & Co., Three Quays, Tower Hill, London, E.C.3, U.K.  
—Joseph Seab & Co., Four East Ltd., Hutchison House, 1001 Hong Kong.  
—Wadsworth & Co., 1588, Market Street, Gannan House, 2nd Floor, London, E.C.2, U.K.

PACIFIC BASIN MANAGEMENT COMPANY SA

Luxembourg, 20th October, 1980.

### COMPAGNIE FINANCIERE DE SUEZ

Société Anonyme régie en France avec un capital de 5,442,177,100 francs.

Registres 02066 PARIS 75006 PARIS

EXTRAORDINARY GENERAL MEETING

NOTICE IS HEREBY GIVEN that, since the Extraordinary General Meeting called for 22nd October 1980, the validly held shares of the Company will be held on 11th November 1980.

At 2.30 p.m. on 11th November 1980, the Extraordinary General Meeting will be held at the Fauroux-Saint-Hippolyte, 75006 Paris, with the same agenda as the Extraordinary General Meeting of 22nd October 1980.

—Reports of the Directors and Auditors on the financial statements for the year ended 31st December 1979, and the corresponding raising of F.Fr. 5,442,177,100 to F.Fr. 1,143,285,650 by the issue of new shares of F.Fr. 100 nominal value.

—Reports of the Directors and Auditors on the financial statements for the year ended 31st December 1979, and the corresponding raising of F.Fr. 5,442,177,100 to F.Fr. 1,143,285,650 by the issue of new shares of F.Fr. 100 nominal value.

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14  
LOMBARD

# Geoffrey's need to make haste

BY SAMUEL BRITTAN

EXPRESSIONS SUCH as "under review," "being looked at," "may be a case for," "come trippingly to the tongue of the British Chancellor, Sir Geoffrey Howe. But even by Sir Geoffrey's standards, the number of times he has examined is large. The following is an incomplete list:

1—Cash limits have to be announced by November for the Rate Support Grant. It has already been decided that the wage element will provide for "single figure" percentage increases, in line with the 6 to 10 per cent monetary target set out for 1981-2. The exact numbers and details have to be decided, as well as whether to make one announcement covering local authorities, nationalised industries and central government or whether to stagger them in the usual well-worn way.

2—A well-publicised review of public spending as a whole for 1981-82 is taking place. Not so well publicised is the object of the so-called cuts up to £2bn in volume terms. It is simply to prevent public spending for 1981-82 from exceeding the level already announced in the White Paper last March. The total has been swollen by the recession, which has increased nationalised industry deficits and by the need to finance a package of employment aids.

3—There is a review of the whole system of public expenditure control, so that the totals about which Ministers argue are in a less funny kind of money and bear more relation to the cash actually spent. This is highly desirable, but could not come into effect before the 1981 spending review at the very earliest.

4—New monetary targets have to be determined under the normal biannual review. The problem here is how much of the overrun in the period of February to September (estimated by Sir Geoffrey at 8 per cent at an annual rate over and above the 7 per cent to 11 per cent target) should be com-

pensated for in the next period to avoid "base drift." Announcements are expected in the third week of November.

5—There is also a review of the mechanics of monetary control, following the post-oil-fiasco. The Treasury is interested in a more flexible market influenced system for setting M.L.R. a more effective bank reserve ratio, new debt instruments and methods of selling them. The Treasury's First Lady (Mrs. Thatcher) has put a time limit on the deliberations, but we will be very lucky to get announced results even by the end of November.

6—The Government is supposed under the Industry Act to publish a new set of short-term economic forecasts which it finds intensely embarrassing.

The great danger is that foreign exchange markets will move too quickly. Any day there could be a rush into sterling which would bring the Governor round to Number 10 with a grave face saying that he could not answer for the consequences of keeping M.L.R. at 16 per cent a moment longer. After all, the market knows that quite large drops in interest rates are likely fairly soon. And it is only a fortunate hardening of dollar interest rates which has kept the inflow from getting out of control.

## New strategy

But a drop in M.L.R. before the money supply was seen to be under control would indeed be a blow to the credibility of the whole monetary strategy. The urgent need is to bring forward into the next few days the re-statement of monetary targets and to combine it with at least the principles of the new control system even if details have to be filled in later.

Indeed the best course would be to take the bull by the horns and put in one document a re-statement of the monetary and fiscal strategy, precise public expenditure objectives, and the adjustments to be allowed in the PSBR for recession. Such a document should also contain cash limits and the new economic forecasts. Markets move faster than committees and we cannot rely on the Presidential election providing sufficient of a distraction.

# Musicians remain a symphonic 'lump labour force'

THE LIFEblood of the law is dotted with preposterous distinctions, few of which are more preposterous and none more distinguished than the legal difference between a "servant" and an "independent contractor."

The very expressions "servant" and "independent contractor" are more appropriate to the England of the Duchesse of Devon than to the Great Britain of Sir Harold Wilson and Mrs. Thatcher. Now that those paragon of the age of the postman and the scullerymaid, have gone from upstairs and downstairs to join the aspirants and the anti-macassar in the rubble of history, it is high time that the "servant" and the "independent contractor" were earmarked for speedy consignment among the same lumber in the same limbo.

These distinctions between a "servant" and an "independent contractor" remain important not merely for their basis but, above all, for their consequences.

A "servant" is liable to have his or her tax deducted at source, and, for the purposes of national insurance, is an employed person. An "independent contractor" is wholly responsible for his or her own tax and national insurance.

A "servant" cannot be registered or assessed for value added tax; an "independent contractor" can.

An employer has duties, not only at common law but under statute, to attend to the safety of a "servant." He or she owes no such duties to any "independent contractor."

Third parties can sue the employer for compensation for injuries, loss and damage due to the conduct or misconduct of employment. As a general rule, the employer is not legally liable to any third party for the actions of an "independent contractor" even at a time when he or she is employing the "independent contractor" for his or her benefit.

A "servant" has a prior claim for his or her wages over other ordinary or trade creditors if the company employing him or her is wound up; a company liquidator confers no such advantage, no such priority on an "independent contractor." A "servant" is entitled to the protection and security of the law, but a "servant" is not.

The basis of the distinctions has varied from case to case. Sometimes the extent and degree of control exercised by the employer over the employee has been regarded as the decisive factor.

On another occasion, a four-fold test was suggested: (i) control; (ii) ownership of the tools; (iii) chance of profit; (iv) risk of loss.

At yet another occasion, Lord Denning said that the test of being a "servant" depended on "whether a person is part and parcel of the organisation." In one of his notable judgments, Mr. Justice Cooke, in a case about a part-time market research interviewer, put forward as a general test whether the person was carrying on business on his or her own account.

This test included such matters as whether the man performing the services provided his own equipment, whether he hires his own helpers, what degree of financial risk he takes, what degree of responsibility for investment and management he has, and whether and how far he has an opportunity of profiting from sound management in the performance of his task.

In a case in 1976, Lord Justice Megaw invoked the assistance of the New Testa-

Ltd., the Employment Appeal Tribunal decided the status of four part-time players in that orchestra.

In its decision on Mr. Winfield's status, the tribunal took into account the following facts. During his period of membership of the orchestra, he paid national insurance contributions as a self-employed person and was registered as liable to account for value added tax on the payments he received for his work in the orchestra. Like other full-time members of the orchestra, he was a member of

great exponents of their art as Koussevitzky, Toscanini, and Mengelberg demanded a degree of subservience from orchestral players which no manufacturer of concrete would ever expect from any truck driver.

Nevertheless, the tribunal in its wisdom decided that the picture as a whole "looks to us... like a co-operative of distinguished musicians running themselves with self and mutual discipline, and in no sense like a boss and his musician employees."

As a result of this decision the tribunal upheld the argument put forward for the orchestral company that Mr. Winfield was "a freelance musician whose services were hired by the [company] from time to time on a seasonal basis" and was not an employee with any right to be unfairly dismissed.

One wonders whether it really makes good sense, good law or good music for the full-time members of an orchestra which aims and claims to achieve and maintain a "high artistic standard" of "service to the nation" to be declared, described and regarded as freelance musicians hired on a seasonal basis.

Neither in its yearbook nor its programmes are all or any members of the orchestra named in the lists of orchestra personnel described as freelance musicians. Nor would any concert-goer listening to any of its performances describe the members of the orchestra taking part in them as each undertaking his or her own business on his or her own account.

Are orchestral players in all or any of the great orchestras of

London, one of the world's great centres of music, nothing more—and nothing less—than a symphonic "lump labour force" drawn from a pool of independent sub-contractors? Is this the price orchestral musicians are prepared to pay for the lucrative privilege of the freedom to play commercial television "jingles" and "other respectable trivia"? As with last year's full-time member, Mr. Winfield, so with this year's part-time players, Mr. Downs, Mr. Addison, Mr. Ryeffer and Miss Williams. The tribunal decided that, when playing for the orchestra, each of them remained essentially a freelance musician, pursuing his or her own profession as an instrumentalist, with an individual reputation and carrying on his or her business.

The results may be pleasing not only to orchestral managers, who remain free from the burden of deducting tax and paying national insurance contributions, but also to the Arts Council and local authorities, responsible for public subsidies, and to commercial firms offering private sponsorship.

But ought not musicians, playing regularly in and for an orchestra, whether full-time or part-time, be given a greater degree of security in their employment and full scope to test the grounds or fairness of their dismissal than the law at present allows them to enjoy as they come within the legal category of an independent contractor?

Or do they remain content to play second fiddle not only in the ranks of the orchestra but also in the realm of the law?

## THE WEEK IN THE COURTS

BY JUSTINIAN

THE MUSICIANS' Union and a shareholder in the orchestra.

In its judgment, the tribunal agreed that "it can be very difficult to decide whether a relationship between employer and employee is a contract of service... The question in this case has to be considered not in the normal industrial or commercial context, but in the context of one of the world's finest orchestras composed of some of the world's finest musicians. Making music is an art, and the co-operation required for a performance of Berlioz's Requiem is dissimilar to that required between the manufacturer of concrete and the truck driver who takes the concrete where it is needed."

These pronouncements ignore an incontrovertible fact of the history of conducting—such

ment in deciding the legal liability of a building company to a labourer hired to work as a "lump labour force." In his judgment he said that "the century in St. Matthew's gospel says to the man under him 'Do this, and he doeth it.' The man under him is a servant, not an independent contractor."

A fortnight ago, for the second year running, one of London's main orchestras added its distinctive timbre to the forensic polyphony.

Last year, in *Winfield v. London Philharmonic Orchestra Ltd.*, the Employment Appeal Tribunal decided the status of a former full-time member, a distinguished principal oboist, of that distinguished orchestra.

This year, in *Addison v. London Philharmonic Orchestra*

## Velvet Habit for a tricky outing

ON THE corresponding day a year ago at Leicester, when the six winners were returned at an average price of more than 13-1, it proved to be a tricky afternoon for backers.

It looks probable that punters will again not find matters easy. This time there is an additional race for the Fleckney

## RACING

BY DOMINIC WIGAN

Maiden Fillies Stakes, for it has had to be divided. However, the second division, at 4.10, hardly looks to contain the basis of a "settling-out" but for anyone in trouble. Two more insistent betting mediums appear to be the opening division of that event, and the Wyal Stakes.

Barry Hills, whose near-120-strong South Bank team is numerically a little superior to that of Seven Barrows (the only other stable of comparable size in the country), will be hoping that Always Sandiliffe can get off the mark in the Wyal Stakes.

This Home Guard filly, for whom Hills has snapped up

Willie Carson, showed much-improved form last time out. The patience of her trainer, for whom she is racing for only the fifth time, can be rewarded.

At Lingfield, Major Swallow seems likely to go to post at cramped odds for the Doyen Novices Chase. He may well win but reports of sketchy jumping in his schooling suggest that Carbolux may be a better bet. Carbolux did well to finish second behind The Herb at Fontwell recently.

## LEICESTER

1.15—Velvet Habit\*\*\*  
1.45—The Marlston  
2.15—Sauldridge  
3.15—Always Sandiliffe\*\*

## LINGFIELD

1.00—Carbolux\*  
1.30—Brown Jack  
2.00—Ro's Owen  
3.30—Rockharton

## HTV

1.20 pm HTV News. 1.30 About Britain. 2.00 Farmhouse Kitchen. 2.30 Comedy. 3.00 News. 3.30 The Year Don't. 4.15 Gambit. 6.10 Report. 7.00 HTV News. 7.15 Inter-pret. 8.30 HTV News. 8.45 HTV West. 9.00 HTV News. 9.15 HTV West. 9.30 HTV News. 9.45 HTV West. 10.00 HTV News. 10.15 HTV West. 10.30 HTV News. 10.45 HTV West. 11.00 HTV News. 11.15 HTV West. 11.30 HTV News. 11.45 HTV West. 12.00 HTV News. 12.15 HTV West. 12.30 HTV News. 12.45 HTV West. 1.00 HTV News. 1.15 HTV West. 1.30 HTV News. 1.45 HTV West. 2.00 HTV News. 2.15 HTV West. 2.30 HTV News. 2.45 HTV West. 3.00 HTV News. 3.15 HTV West. 3.30 HTV News. 3.45 HTV West. 4.00 HTV News. 4.15 HTV West. 4.30 HTV News. 4.45 HTV West. 5.00 HTV News. 5.15 HTV West. 5.30 HTV News. 5.45 HTV West. 6.00 HTV News. 6.15 HTV West. 6.30 HTV News. 6.45 HTV West. 7.00 HTV News. 7.15 HTV West. 7.30 HTV News. 7.45 HTV West. 8.00 HTV News. 8.15 HTV West. 8.30 HTV News. 8.45 HTV West. 9.00 HTV News. 9.15 HTV West. 9.30 HTV News. 9.45 HTV West. 10.00 HTV 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THE ARTS

The Other Place

Hansel and Gretel

by B. A. YOUNG

David Rudkin's version of the familiar tale is even more brutal than that of the Grimm Brothers, but in the Grimm Brothers' own manner; that is to say, the most appalling cruelties are presented for amusement. I don't think Mr. Rudkin hopes for the amusement of children, however, like the Grimms; his play is peppered with four lettered words and examples of bad behaviour. This is unexpected from the author of *Ashe's*, that agonising account of a childless couple's efforts to have a family. I'd like to believe that Mr. Rudkin's heart wasn't in it. That would account for the many bad jokes. The story is told roughly as we know it. Hansel and Gretel (Allan Hendricks and Janine Duvitski) have been half-poorly lost in the forest by their indifferent parents, and the Witch catches them by using drugged sweets as bait. Hansel is popped into a cage to be fattened up for the table; Gretel, her ankles chained together, is employed as a domestic. They act throughout like the nastiest children. When the Sandman (Edwin Richfield) releases Hansel, he goes on a mindless

orgy of destruction as if he were on a football train. Gretel sucks up to the Witch and is treated as a daughter until she gets a chance to push her into the microwave oven meant for Hansel. Brenda Bruce's Witch is at heart an elegant lady who wears the traditional black kit because they are the fashion, but at other times can appear as homely Granny Daw (with an appropriate beak elongating her nose) or even as Lady Daw, taking tea on the lawn or avidly addressing the local school about the Lady Daw Crusade. When she is killed, her property passes to the children's stepmother (Barbara Kinghorn, who is also the Witch's gruesome daughter, Olive). Children, in fiction at any rate, always resent their stepmothers, and children who have met witches won't be slow in connecting the two. The father (Hugh Ross) is another matter. He, at least, makes an effort to find his lost offspring; yet when they are home again, he takes an appalled look as they settle down to their childish pursuits and exclaims: "Who are these people in my house?"

Wigmore Hall

Adrienne Csengery

by DAVID MURRAY

This Hungarian soprano has been much admired at Glyndebourne for her *Susanna* and *Zerlina*; her fascinating recital on Friday revealed other aspects of her talent. Of these, the least by far is her command of English. It is much more foreign than she realises, or she would not have chosen to fill the first half of her programme with Haydn's dozen English canzonettas. She delivered them with an individual sort of elegance, unexpected rhetorical effects and a tendency to float away, but the exotic accents of her words were a hefty distraction. Safely back in Hungarian, Miss Csengery addressed herself to the voice-and-piano version of Bartok's *Village Songs* in a variety of exuberant tones—liquid, raucous, darkly earthy. She brought the cycle to vivid folk-rustic life, with temperate support from Walter Moore, her cool, polished accompanist. His Haydn had been far more idiomatically committed, and he sounded happier again with the mechanical skirlings of Stravinsky's *Priglasenie* songs.

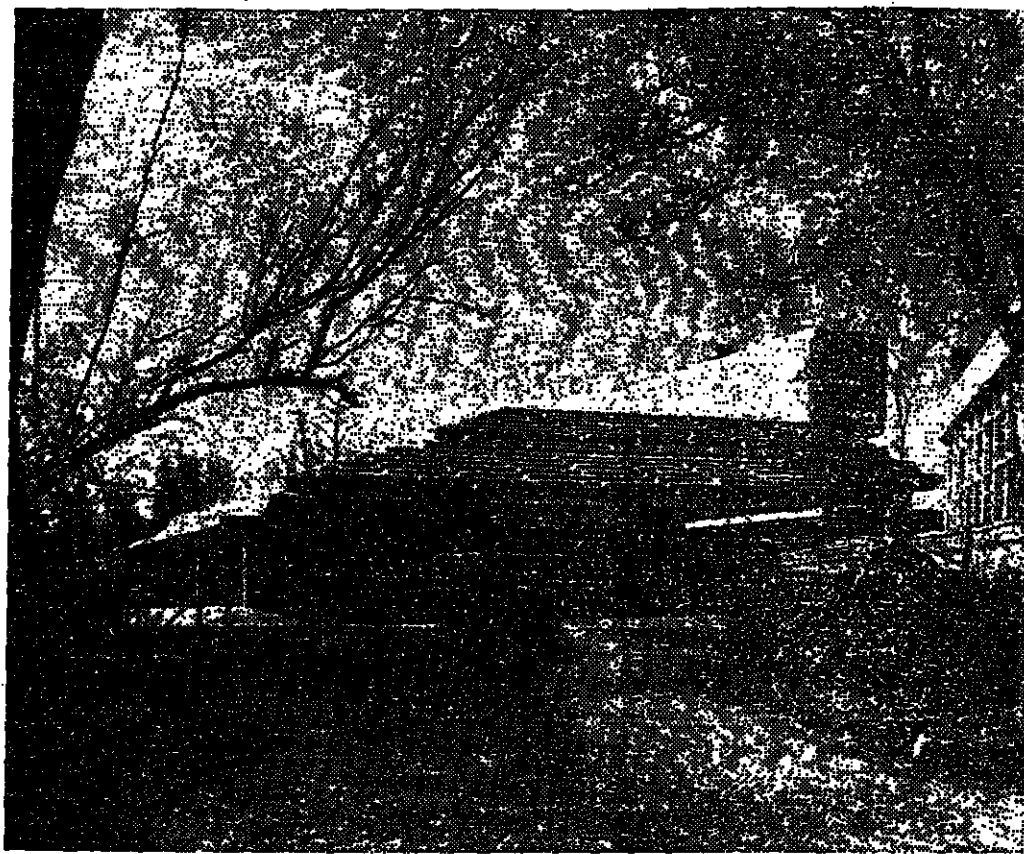
These the singer took up and brandished in full-blooded Berberian style, with infectious relish. Miss Csengery found new vigour again for Josef Bakky's remarkable little duologue for one, "Overheard on a Salt-marsh." Unpromising though this must sound, it consists of a goblin's growling pleas to a nymph for her green glass beads, and her surging refusals. The piece is ingeniously devised, not at all hit-or-miss, and its effect is much more cell as quirky. It sent Miss Csengery plummeting and soaring between Alberich depths and her silvery upper register, which contains some hauntingly beautiful notes. No doubt that seems an odd way to put it; but the whole Csengery voice turns out to be something positive out of Oliver's gestures. The music is by turns faceless and suggestive of a tired, middle-aged brand of English music; the treble solos predictably recall Britten, though the soloist (on this occasion the very secure Mark Cresswell) is not given much encouragement. As an occasional piece, written to fulfil a specific purpose, it may have worked well; but in less sympathetic surroundings and forced to be self-sufficient *The Child from the Sea* does not begin to convince. ANDREW CLEMENTS

Elizabeth Hall

The Child from the Sea

Conducted by Stuart Bedford for the first of their four visits to the Elizabeth Hall this season, on Friday evening the Northern Sinfonia brought to London a recent piece by Stephen Oliver. *The Child from the Sea* for treble solo, chorus and orchestra was commissioned as part of the celebrations for the 900th anniversary of the foundation of Newcastle-upon-Tyne earlier this year. The programme note for the work was brief to the point of obscurity; Oliver's warning that the work is not to be taken as an allegory but as a treatment of "the doubts and dangers that attend any great undertaking" did not help to shed light. The text is the composer's own. It relates a strange little tale of a king and a child who appears from the sea to take the king away from his people a funny narrative that would require the most imaginative and careful treatment to give it convincing flesh. Oliver allots the bulk of the story to the chorus, leaving the treble solo to the vague utterances of the child. The feeling of the work

as a whole is of an artifice intended to obscure, as if profundity would be naturally read into anything which cannot be immediately understood. Had the chorus and orchestra been provided with grateful musical images the shortcomings of the text would not seem so intrusive. But the Northern Sinfonia chorus could barely cope with the intricate working of the chorus writing; in physical numbers also, chorus and orchestra lacked the body of sound necessary to make something positive out of Oliver's gestures. The music is by turns faceless and suggestive of a tired, middle-aged brand of English music; the treble solos predictably recall Britten, though the soloist (on this occasion the very secure Mark Cresswell) is not given much encouragement. As an occasional piece, written to fulfil a specific purpose, it may have worked well; but in less sympathetic surroundings and forced to be self-sufficient *The Child from the Sea* does not begin to convince. ANDREW CLEMENTS



The first phase of Portsmouth Polytechnic Library by Ahrends Burton and Koralek

Architecture

From brief to building

by COLIN AMERY

It is often a puzzle for the layman to discover exactly how buildings are put together. The way they do. The Heinz Gallery of the Royal Institute of British Architects is a kind of shop window where architects can show their wares to the public. Of course, the actual buildings are the best and often the worst advertisements for the architect but it is fascinating to attempt to understand the creative process that produces one building rather than another. An exhibition that has just opened at the Heinz Gallery on the work of Ahrends Burton and Koralek certainly lays the creative process on the line. Peter Ahrends, Richard Burton and Paul Koralek studied architecture together from 1951 to 1956; they formed a practice in 1961 and this show is a record of 20 years work. Fine drawings and beautiful models show a number of buildings and projects and in almost every case early sketches and illustrations of the "briefing process" indicate the early gropings towards the final form. The presentation of the exhibition is seductive and one quality is evident throughout—there is a recognition that architecture is an art, however simple and functional the brief.

This quality shows in the design for the new Post Office Headquarters on the sensitive St. Martin's site north of St. Paul's Cathedral. Ostensibly just another office building it is streets ahead of the average City block. A sliver of screen of tubular aluminium gives depth to the walls which follow an elegant curve and frame the Cathedral beautifully. Sadly this design is now not going to be built, the Post Office has opted for "economy" and will no doubt produce a building of no real distinction. The building that gave birth to this practice was the Library at Trinity College Dublin. A dramatic rendering of the late style of Le Corbusier it has its own merits as well as its admirers. It has a ruthless rhetoric which extends as far as the concrete furniture—looked at nearly 20 years after it was designed, is it a grown more rational since those heady days and their latest library buildings for Redcar, Maidenhead, and the Polytechnic at Portsmouth are indications of a design approach that is a direct response to brief, site and materials. All three libraries seem to me to have a clarity about their design which is both practical and beautiful.

Another controversial building by this firm is the residential range at Keble College Oxford. A long snake of rooms that ends up in a coil that curls in on itself—it is a brave challenge to Butterfield's Fair Isle patterned brickwork. Yellow brick blank walls are presented to the world while inside the college all is raked glazing and startling reflections. Like William Butterfield's achievement at Keble there is nothing commonplace about this bold building; it hits hard and strong. A house in the heart of the old city of Jerusalem is another striking example of this firm's design integrity. It grows out of the old walls with tremendous distinction and is convincingly at home in a sensitive historic area. This building represents all that the firm of ABK stands for: care for detail, human scale, response to a sensitive site, and a rather austere aesthetic. Go to the Heinz Gallery to see how good architects work. It is a very distinguished exhibition. Their clients range from librarians to John Lewis and they have all been well served. The Heinz Gallery is at 21 Portman Square, London W1. (Mon-Fri. 11.00-3.00, Sat. 10.00-1.00).

New Theatre, Oxford

The Rake's Progress

by DAVID MURRAY

The Glyndebourne Touring Company has inherited, or at least borrowed, its parent company's staging of Stravinsky's opera, and presented it in Oxford last week. Pleasant to discover that David Hockney's brilliant cross-hatched sets travel so well (with John Cox's production reproduced for this tour by Julian Hope); a little disappointing to find a good young cast having such difficulty with projecting Auden's text in his home territory. In fact the slightly cavernous New Theatre had many unfiled seats, which cannot have helped; even the excellent Bournemouth Sinfonietta in the pit sounded as if at a great distance. After the interval the audience warmed to the action, and thereafter the singers took heart. Peter Jeffrey's Rake, whose words I could scarcely distinguish save in recitative, proved most effectively at home in *extremis*, though over-shadowed by his diabolical partner—John Pringle, making his British operatic debut with élan. If this

wasn't an especially subtle Nick Shadow, it was a strong, satirical sketch, founded upon solid tone and alert attack, brimming with dramatic confidence. A comparable grasp of the text would have improved Helen Walker's Anne Trulove, pleasantly sung but under-detailed. For Mary King's sprightly Baba Turk, nothing but praise: vigorous comedy on the right side of circus clowning, decent accuracy with her taxing vocal line, and invaluable bribe. Roger Bryson sounded well as

Trulove, but a want of paternal authority was compounded by his looking like a tall schoolboy playing Old Gobbo. Stephen Barlow's sympathetic exposition of the score, sound in detail and properly weighty for the blackest moments, was almost too suave for the circumstances—a little more strident energy might have brought the performance to life sooner. The eventual resuscitation was due not least to a visitor from the original Glyndebourne cast, John Fryatt's faultless Auctioneer.

Two RSC plays at Warehouse

The RSC is to stage two new plays at The Warehouse: *The Irish Play* by Ron Hutchinson, which opens on November 13 (performances from November 12) and *Television Times* by Peter Prince, which opens on December 9 (performances from December 3). *The Irish Play*, a political comedy set in an Irish club in the Midlands, stars John

Cowley, Jim Fitzgerald and P. G. Stevens. It is directed by Barry Kyle and designed by Bob Crowley. *Television Times* is a comedy which charts the uneven progress of a group of TV professionals working on a major drama series. This is Peter Prince's first play for the RSC. It is also director Stephen Frears' first RSC production.

Cottesloe

The Crucible

by B. A. YOUNG

I have not been so profoundly moved for a long time as I was in the third act of this tremendous play, certainly the best Arthur Miller wrote, possibly the best American play of this century. Miller winds up the tension with remarkable skill in the court hearing to which John Proctor has come to clear his wife of the accusation of witchcraft. First there is Proctor's difficult decision, whether to confess to adultery with Abigail Williams, chief of young girls who are marking down all the women in Salem as witches. If he confesses, there is a chance that Abigail will be recognised as a liar. He does confess, in his wife's presence; but the court needs more proof and Proctor brings a signed deposition from his servant Mary Warren, who has been with the hand but has left them. She tells the judge the accusations were all lies; but as she does so, the girls turn on her and pretend that she is threatening them with witch-

craft, and Mary recants. The play is taut and exciting from the start, where we first learn of the children's "sport," dancing naked in the woods with a Barbadian slave woman. Then attention is focused more nearly on one couple, the decent Proctors, who become involved when Abigail tries to involve Proctor's wife out of jealousy. Bill Bryden's production makes the most of the succession of climaxes that follow one another with increasing force. The excellent company did not seem as good as it was last night until the first act was nearly over; I was thrown by the assorted accents, none of them from Massachusetts, until the magic of the words held me completely. The childish guilt of Abigail (Caroline Embury) and her friends smoulders until into genuine wickedness until in the court scene they are veritable demons in their clever devices to entrap their enemies. Mary (Valerie Whittington) veers frighteningly between

little-girl innocence and experienced wickedness. Mark McManus is first-class as Proctor, at first the wholly upright man, prepared to defy even the Deputy Governor (a marvellous performance by Tony Haygarth, his authority tinged every now and then with a hint of sympathy) in the pursuit of justice for his wife and the other accused women, victims of the children's game that they can't back out of. Dinah Stabb plays his wife, the archetype of the wrongly marked witch, faithful to her husband even after his confession of adultery and his false confession of dealing with the devil, which he withdraws when he realises all the shame it must bring. There is fine work too by Dave Hill and James Grant as the rival clergy, J. G. Devlin as the litigious old Corey, and others. The admirable set in plain board, instantly and simply evocative from scene to scene, is the work of Hayden Griffin.

Festival d'Automne, Paris

The Oresteia

by MICHAEL COVENEY

The centre-piece of this year's theatre programme at the Paris Festival is undoubtedly Peter Stein's production of the Aeschylus trilogy, visiting from the Schaubühne Ufer in West Berlin. There are more performances this week in the Maison de la Culture in the grim concrete suburb of Bobigny before the show returns to Berlin. On Saturday, the trilogy was given complete, starting at 2 pm and finishing at 11.30 pm. The plays themselves are very short. Peter Stein's production of them is very long. But absolutely riveting. The pervasive slow-motion atmosphere in a specially contrived large black box arena—the stalls have been removed—telling us made of long diagonal entrances and stunning half light is instantly recognisable to those familiar with the work of Robert Wilson. Apart from that, the performance is a study in Greek tragedy. In the second play, *The Choephoroi*, Electra's mourning call is spread through a female chorus that slithers slowly on to the stage beating their breasts against the sky. The ululation builds to a tremendous climax before Electra and Orestes pummel Agamemnon's huge black tomb with their fists. The choral speeches themselves are a marvellous mixture of conversational inflection, solo comment and corporate incantation. The same is true of the old male chorus line in the *Agamemnon*. Here we have a bunch of village elders in battered hats, leaning incredulously on their sticks while the tragedy unfolds at a higher level in the House of Atreus. Every now and again they break away into a conspiratorial huddle. Mr. Stein solves brilliantly the problem of how to make the Chorus at once observant and participatory. When Agamemnon returns from Troy, they lay out a railway line along the same diagonal used by Orestes and, on a flying contraption, Athens in *The Eumenides*. They greet him with an ominous, close-harmony chant. Perhaps they were expecting Attila the Hun.

Strict technical control also characterises the solo expressions of grief and foreboding. Cassandra (Elke Petri) produces an astounding ululatory yelp while still under white captive wraps. As the Chorus shake their collective head at the prophecies, she breaks into a strangulated cry, loosens her hair and strips to a white shift. It is a marvellous sequence, culminating in a quiet acceptance of defeat as she crosses the fatal threshold. On hearing Agamemnon's death cry, two of the old chorus boys keel over in dismay. The inevitability of the tragedies is graphically done by the emergence from the house, at the end of both *Agamemnon* and *The Choephoroi*, of a chaotic platform. First, Clytemnestra stands astride her husband and his lover. Second, Orestes, brandishing an olive branch and a sword, displays his mother and her lover (Aegisthus). On both occasions blood drips to the floor like rain from a gutter.

The performance of the brilliant Edith Clever, as Clytemnestra is astonishing. Framed in the palace doorway, her presence is beautifully engineered in the overall architectural scheme. When Agamemnon eventually goes inside, she breaks momentarily free to thank Zeus in a crouched position. In the second play, she studies on weak with weariness. Everything in her voice and gesture, both slinky and doomed, tells you that years have passed and the house stinks with sadness. One forlorn attendant half-hides in the doorway when a disguised Orestes announces that Orestes is dead. First she stinks to her knees in quiet grief. Later, she patrols the palace rubbing her hands along the wall. Resisting death at her son's hands, she bears her left bosom. For minutes on end the blade balances on her nipple. The anticipation is unbearable. For us, and for the Chorus. When Agamemnon dies, the chorus explodes in a communal noise of orgasm. The abruptness with which they close ranks and line a side wall is positively post-coital. The biggest problem for Stein is obviously in the third play.

London Festival Ballet forms fund-raising association

Faced with a deficit of over £100,000 in the past financial year, the London Festival Ballet has formed a new fund-raising association, under Lord Chalfont.

Lord Chalfont already has given us magnificent help with our tour of China earlier this year. Having saved the tour from being an unmitigated disaster he has been encouraged to go on seeking financial help. Mr. Gerry Weiss, Festival Ballet's chairman said, Next season the company will

RUGBY BY PETER ROBBINS

A game to match the occasion

THERE IS no greater rivalry between rugby-playing nations than that between Wales and New Zealand. The sport is such an integral part of the heritage of each country that it is all too easy to see why any match between the two is more than just a game. For the Welsh, rugby football is an expression of national identity and of Welshness itself. It is on a par with their enthusiasm for education and quite often has the same beneficial results. In New Zealand one suspects that the game is a symbol of national virility. Since neither side has developed the habit of losing too many matches, any encounter between them is a special occasion. Such firm attitudes may lead to the prize being greater than the game itself but on Saturday in Cardiff we were privileged to watch a superb All Black team dismantle Wales with as fine a display of rugby as one could hope to see. New Zealand walked off 23-3 but the margin could so easily have been greater had Robinson been in anything like kicking form. The most important thing however, was that the match healed the scars of two years

ago. Although Wales may mourn this particular loss in their centenary year, the game nevertheless served some useful purpose. First, it set in perspective the standard of rugby in the UK, for here was the might of Wales being made to look second-rate by New Zealand. Second, it indicated to the Welsh selectors a series of weaknesses which perhaps in the European context are not so severe. So complete was the All Black performance that it was hard to understand how they had lost to Australia in the summer. The key may be that Mourie was not on that tour. On this visit to Wales, he displayed extraordinary powers of leadership and diplomacy, not to mention a remarkable level of performance. The preparation has also been thorough, and one of the big differences between the two sides on Saturday was in sheer fitness. The set scrum became almost an irrelevance to the pattern of the game because Mourie, Moxied and Shaw were used. Both attacked the narrow side with breaks and kicks, and Allen in particular kicked well out of defence. Welsh hearts

To see a back row play with such harmony was a joy for the connoisseur. Shaw has developed into a fearsome flanker in the space of a fortnight, in the same way that Higginson in the second row has become a true international. He and Reid, the hooker, were incredibly quick around the field, and when Reid scored the last try he had sprinted fully 60 yards to get to Wilson. That was the measure of the mental and physical difference between the two sides and was possible because the All Blacks controlled the forward play throughout the game. True, Martin had some first-half line-out success, but it was less a game of static set pieces than one of movement, with the All Blacks smuggling the ball cleverly, going down on it quickly, and then moving forward again. Haden was monumental in such work, but it was their skills of a highly trained unit, rather than individuals, which stood out. So Lovelidge and Allen had several options, which they both used. Both attacked the narrow side with breaks and kicks, and Allen in particular kicked well out of defence. Welsh hearts

were in mouths whenever the ball went to Eigan Rees. Robertson and Osborne complemented each other perfectly in the centre, and when Wales did recapture some of the old magic in the second half, Osborne picked off the attackers with wonderful tackling. That good defensive work also produced some astonishing All Black counter-attacks, too sudden for Wales to deal with. After the glories of the 1970s, even Wales now faces a period of rehabilitation. The original choice of Quinell and Wheel in the second row seemed curious and whereas Williams, Phillips and Erics were a match for the All Blacks in the set scrum, it was not uncommon for the All Blacks to outamber the Welsh at the loose ball in a ratio of four to one. Further, the Welsh defence at the fringes of the rucks and mauls was brittle; but the most depressing feature from Wales's point of view was the lack of support in the back row when someone did make a break. National pride was salvaged by some remarkable tackling from JPR, Ackerman and Holmes.

SOCCER BY TREVOR BAILEY

On the ball... ten years too late

THE RECENT two-day seminar of the 92 Football League chairmen that discussed, and recommended treatment for some of the many problems besetting the game was a step in the right direction—but it should have taken place at least a decade ago, before the situation had been allowed to deteriorate quite so badly. Current gross aggregate attendance figures are not only the lowest since the war, but are currently dropping by some 50,000 per week, which is highly disturbing. Some of the reasons for the enormous decline in gates since the halcyon days of the late 1940s and early 1950s, like changes in national social habits and the advent of television, were unavoidable, while the present economic crisis and increased admission charges have not helped.

But professional football itself is largely to blame for hysterical transfer fees, unrealistic wages, inadequate facilities, indifferent management, poor book-keeping, an over-

crowded fixture list, too many matches that lack inspiration and entertainment and complacency combined with a refusal by directors to accept the fact that some of the changes required could mean the end of their own club in its present form. The game has also taken too long to climb aboard the sponsorship bandwagon. It is intended that recent recommendations will be made law at an extraordinary general meeting of the League in the New Year. Few will disagree that the season should open with a flourish at the start of September and finish at the end of May, the extension of the half-time interval to 15 minutes. Although the new requirement that half the transfer fee must be paid within a week, and the remainder within 12 months, is an improvement, it does not solve inflationary transfer fees. All changes to rules governing a game or competition are invariably well-intentioned, but the outcome is seldom quite as satisfactory as anticipated, the law in cricket providing a classic example. The idea of three points for a win instead of two is to create a more posi-

tive approach and to stop teams away from home setting out with the deliberate policy of keeping their goal intact and settling for a draw. The danger is that the increased rewards will encourage a side to sit back on a one-goal lead even more than at present. (If more goals were considered a prime objective, an increase in the width of the posts would seem the most simple solution.)

**Potential**

The appeal of Sunday matches is obvious, because there is greater crowd potential than at any other time in the week. Less enthusiastic will obviously be those living close to grounds. It is bad enough having to suffer the hooligan element which does so much to disfigure football on a Saturday afternoon, let alone having it descend on Sunday lunch. In addition, games on a Friday evening, Saturday afternoon and Sunday would also affect the appeal of the pools.

Plans to improve the image of the game include making the professional foul a sending-off

offence, a move that could run into difficulties through different interpretations on the part of referees. The deliberate trip outside the box is an obvious example, but what about a deliberate hands to prevent a certain goal? Television did not prove such an explosive issue at the chairman's meeting, despite claims that soccer was being ruined by over exposure and that there was a need to increase fees. Some of the big clubs complained, understandably, that they do not receive enough, but at the other end of the scale the £25,000 paid out to all 92 sides is a godsend to many in the Third and Fourth Division. There is also the question of the refusal of the television companies to allow advertising on shirts. If this was permitted would some of the more famous teams be anxious to be televised more often so as to increase the charge to the sponsor? This is plainly a matter for discussion when the present contract ends in 1983, but football, like it or not, must learn to live with the box, and to capitalise on the good things it can offer.



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## A poor choice for America

WHEN the American electorate goes to the polls to elect its President, the rest of the world holds its breath. For better or for worse, the American President remains the most powerful political leader in the western world, and the choice made by American voters is likely to have repercussions which go far beyond the frontiers of the United States.

In this case, their choice is particularly difficult. As has been evident from the unusually high proportion of "don't know" in the public opinion polls, the American voters have had a hard time making up their minds between Jimmy Carter and Ronald Reagan. It is equally difficult for the rest of the world to make a confident prediction about which of the two main rivals would be likely to make a better fist of the job. There is widespread anxiety in America and elsewhere that perhaps neither would do it especially well.

**Impression**  
Jimmy Carter's record in the White House is not particularly impressive. He has some important achievements to his credit: the courageous de-escalation of oil prices, the Panama Treaty, and (with reservations) the Camp David agreement between Egypt and Israel. But too often he has given the impression of indecisiveness and inconsistency, and some people accuse him of incompetence.

Governor Reagan's competence is so far untested, since he has so little experience in national level international affairs. He has tended to sound more decisive than Mr. Carter, but too often that decisiveness has appeared to be founded on simple-mindedness and ignorance. As the campaign has gone on, his one-word answers have tended to be more qualified. Some people believe that, provided he secured and depended on first-rate advisers, his tendency to simplify might be preferable to Mr. Carter's excessive interest in detail.

Whoever wins the race will be facing an extremely taxing period in office. In response to the Soviet invasion of Afghanistan, both of the chief candidates have laid considerable stress on the priority of making America stronger in military terms; opinions may differ on whether such a reaction is enough, though it is obviously explicable in psychological and domestic political terms. The danger is that, once the election is over, the defence spending issue

could continue to play too central a role in American foreign policy thinking, at the expense of other aspects of East-West relations, and at the risk of a new and damaging arms race between the two superpowers.

Both candidates have expressed their support for arms control negotiations with the Soviet Union. It is in different terms, but neither man would find himself in a particularly favourable position for moving in that direction. After swinging back and forth on the issue, Mr. Carter now wants ratification of the second Strategic Arms Limitation Treaty, but it remains questionable whether he could get the necessary Senate majority. Mr. Reagan wants to bypass SALT II, and move into a third SALT negotiation with the Soviet Union; but it is even more questionable whether the Russians would find that an acceptable option. Russian recklessness may have delivered a damaging blow to détente, but more so as it is perceived in America as threatening the vital oil supplies from the Middle East. Yet one way or another, the U.S. has to remain on some sort of terms with the Soviet Union.

America's mood of national toughness, which has been encouraged by both main candidates, may also cause difficulties in trans-Atlantic relations within the Alliance. For reasons of history and geography, most European countries are not prepared to abandon what has been achieved in the name of détente for the sake of being tough with the Russians. American criticisms that some European countries are failing to pull their full weight in the Alliance may not be entirely unjustified, yet one way or another the next U.S. President will need to manage his affairs so that he is not simultaneously at odds with the Russians and with the European allies.

**Uncertainties**  
The trouble is that on the political front, the future is likely to be rather unpredictable and unstable; on the economic front, the only thing that is predictable about the future is that it will be a great deal more difficult all round. What is needed is an American President who can give imaginative and mature leadership to his countrymen in coping with the uncertainties that lie ahead. On balance, Mr. Carter may be better equipped, by his intellectual and domestic political experience, to offer that leadership, but it is not an enthralling choice.

## The election of a leader

COMMITTED Conservatives might think that the best chance of the Labour Party election would be a victory for Mr. Michael Foot to be followed shortly afterwards by his replacement by Mr. Anthony Wedgwood Benn who would be chosen by a wider franchise on which a section of the Party has now set its heart. A Labour Party under Mr. Foot and still more under Mr. Benn would almost certainly become a diminishing force in British politics, thereby giving an easier ride for the Tories. A victory for Mr. Denis Healey, on the other hand, would provide at least the possibility of serious opposition, both in Parliament and in the country.

## Muffled

It is precisely for that reason that we hope that Mr. Healey will win. As a politician, an intellect and as someone capable of gathering popular support, he stands head and shoulders above the other contenders. There are really only two questions to be asked about him. The first is whether, if elected, he will fight to restore the Labour Party to some kind of sanity. The second is whether even he is up to the task.

Mr. Healey has been criticised for conducting a somewhat muffled campaign. True, he has said that if he wins, he will be prepared to stay as long as the Parliamentary Party wants him, which is one way of expressing scepticism about the proposed electoral college. He also condemned outright suggestions that MPs should vote on the leadership in accordance with instructions from their constituency organisation, which is more than can be said of another contender, Mr. Peter Shore. But beyond that he has been relatively quiet about the sort of Labour Party he would like to see and its constitutional arrangements.

There is a case here for giving Mr. Healey the benefit of the doubt. His first task is to be elected and he will need every vote that he can get. It would have been foolhardy to risk

alienating a few Labour MPs by making a particularly pious statement. Anyway, Mr. Healey's political views are in general well-known. He is Atlanticist, pro-European and pro the mixed economy.

It is the second question that really matters: could even Mr. Healey save the Party? There are several reasons for thinking that he might. The Labour Party has had internal troubles before and survived. It has, after all, been in office for 10 of the last 15 years. Left-wing or social democratic parties are also in power in much of northern Europe. Admittedly, those parties too have their problems: even Chancellor Schmidt would have to pay more attention to his own militants if he did not rely on a coalition with the liberal Free Democrats. But the European example does suggest that there is still strong support for moderately Left-wing parties and that such parties can succeed in office. Britain would be the deviant if its Labour Party were to disintegrate. Mr. Healey knows as much about all that as anyone else: one would expect him to seek to develop a Social Democrat Party with a chance of winning a general election.

## Crucial

Yet the inheritance is a cruel one. If it were not for the British electoral system of first-past-the-post, the Labour Party would almost certainly have split some time ago. There would then have been a British Socialist or Social Democrat Party and a British Communist Party competing for votes. It is the knowledge that only a mass party can hope to win an election which has kept it together so long. The question now is whether the splits in the Labour coalition have become too deep to be repaired.

It is the state of the Labour Party that makes one wonder whether even Mr. Healey could perform a rescue act. We should like to see him succeed, but we would not pretend that the break-up of the Party would be a tragedy.

"WE have always managed very well at Lloyd's without the heavy hand of bureaucracy and I cannot envisage that this will greatly change. There is a need for reform, but in tying up loose ends we have absolutely no intention of strangling ourselves."

Mr. Peter Green, chairman of Lloyd's, addressing the Institute of Bankers on October 28.

**TOMORROW**, for the first time in 30 years, the private membership of the City of London's famous commercial club, Lloyd's, the insurance market, is meeting to promote a new Act of Parliament. The members are to be asked to approve the planned legislation.

About 4,000 of the total membership of 18,552 are expected to attend the meeting which is to be held at the Royal Albert Hall in London.

The new draft legislation has been prepared after completion of a detailed report into self-regulation at Lloyd's by Sir Henry Fisher, a former High Court judge. The study was commissioned by Lloyd's.

That report, presented to the ruling committee five months ago, raised serious questions about Lloyd's structure, its government, discipline, efficiency, management, security, and its accountability. The constitution of Lloyd's "is no longer appropriate" and the powers of the 18-strong ruling committee of Lloyd's "are inadequate for self-regulation in modern conditions," the report concluded.

Sir Henry Fisher's report and the subsequent draft legislation are a direct response by Lloyd's to the growing number of troubles and scandals which have occurred in the market in the past three years, posing a challenge to the way Lloyd's operates.

A dozen of the market's underwriting syndicates, the units into which the members of Lloyd's are grouped, have required special internal investigation, some of which have led to City of London fraud squad inquiries. A broken and underwriter have been arrested.

Members of the Sasse syndicate, which faced £21.5m of losses, were rescued by Lloyd's. The 110 members had to pay up £8.35m between them, with the Lloyd's community meeting the rest of the syndicate's liabilities. A dozen of the market's underwriting syndicates, the units into which the members of Lloyd's are grouped, have required special internal investigation, some of which have led to City of London fraud squad inquiries. A broken and underwriter have been arrested.

Another dispute between a syndicate and its members, the Sasse affair, a Parliamentary question was raised in 1978 into the way a possible fraudulent claim was settled by the market.

**WHO'S WHO AT LLOYD'S**  
SYNDICATE: Group of underwriting members. To allow a certain volume of insurance business to be accepted, syndicates are formed. Some syndicates have hundreds of members, some a handful.

**ACTIVE UNDERWRITER:** Person (usually, but not necessarily an underwriting member) who accepts the insurance risk on behalf of a syndicate of underwriting members. Over 15,000 members do not work at Lloyd's but "invest" in the market by committing their private wealth.

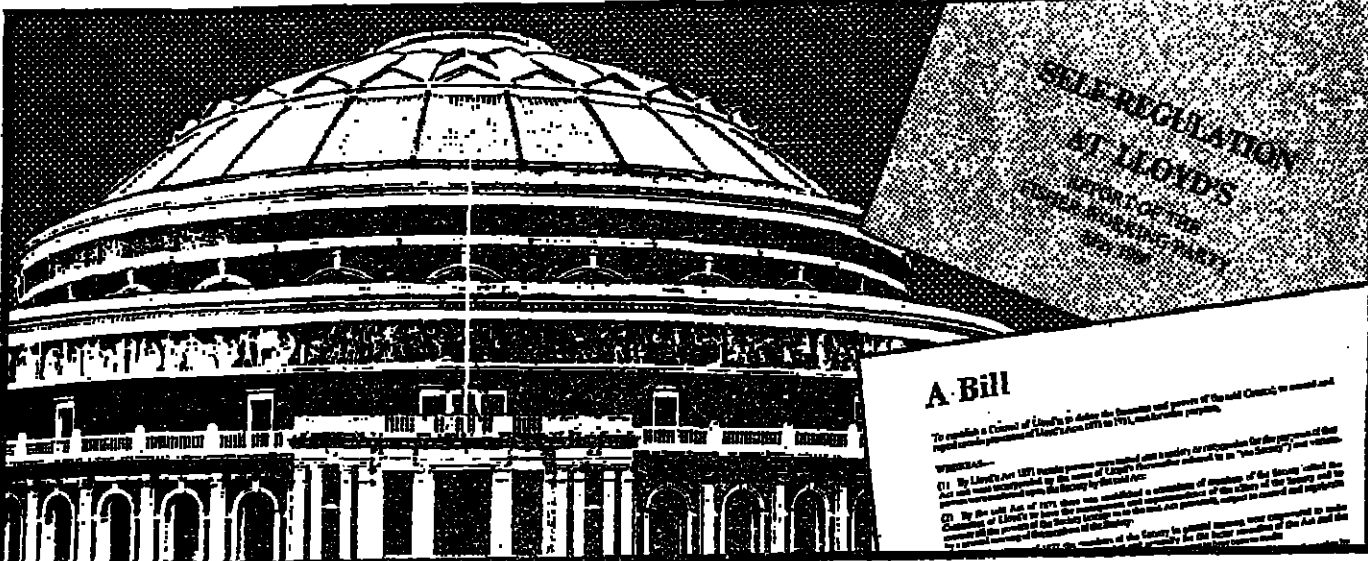
**UNDERWRITING AGENTS:** Groups which manage the affairs of the members of Lloyd's. A managing agent manages a syndicate or a number of syndicates. A member's agent deals with the applications for membership, and introduces members to syndicates.

**BROKERS:** An insurance broker buys insurance on behalf of a client. Brokers who work at Lloyd's need special approval by Lloyd's before doing business there. Lloyd's has no direct dealings with the public. Business must be channelled to underwriters through the brokers. Large Lloyd's brokers often have shareholding links and control of managing agents.

**MOODY BLUES**  
Through its own efficient channels, I hear that Guinness's Post Office Board is having trouble brushing up its corporate image. The Board decided to change its official colour from traditional British red to a distinctive shade called "French blue" to promote philatelic sales. Overseas customers have been responding so well that profits from the sales this year are expected to double to more than £1m.

**Prize past**  
Currently whizzing round New York, London and Paris, the inextinguishable vice-chairman of Svenska Handelsbanken, Torbjörn Brolund, was not at home to receive my congratulations yesterday.

This non-smoking, teetotal, chocolate-addict pillar of the Swedish establishment has been elected to membership of the Royal Swedish Academy of Sciences. He thus joins the elite group which yearly distributes



John Moore previews tomorrow's meeting at the Albert Hall, where members of Lloyd's are being asked to approve draft legislation to

reform the insurance institution's system of government by creating a new council and formal disciplinary procedures.

broker and underwriters over a claim arising from the destruction of a butter warehouse in Holland, showed that more formal procedures, less dependent on goodwill of the parties involved, were needed to deal with commercial arguments.

And in a troubled period for the market Lloyd's is facing its largest ever losses on computer leasing, insurance, and has attracted criticism for carrying out inadequate checks on this new class of business.

As a first step in what Lloyd's has described as a period of controlled change, the system of government at Lloyd's is to be reformed. A new rule-making body, and formalised disciplinary procedures are to be created. These will allow Lloyd's to move swiftly and with more confidence in its powers than in the past to restore order when the freedoms of the market are abused by the working members.

The creation of a new council from Lloyd's will be a more radical than it appears. For the past 100 years or so Lloyd's has been governed mainly by an Act of Parliament established in 1871.

In 1871 there were 675 underwriting members of Lloyd's, all resident in the UK and all carrying on business in the City of London. These members were entrusted with the rule-making power at Lloyd's. If rules were to be changed and bye-laws introduced, then a general meeting would be called by the Committee so that any change could be approved by the membership. Moreover, the

ultimate power of whether a member should be expelled from the market rested with the membership.

In recent years, membership has expanded dramatically. When the last Lloyd's legislation appeared, in 1951, there were 2,813 members. This year there are 18,552 members and the number is likely to increase to nearly 20,000 next year.

More than 15,000 members do not work at Lloyd's and about 3,500 live overseas. Like shareholders in public companies, they provide the capital for the market to function. The large non-working membership generally has little knowledge of the day-to-day workings of the insurance business and does not exercise its right to take part in the government of Lloyd's.

The Albert Hall meeting to approve the new legislation emphasises how cumbersome the legislative machinery of Lloyd's has become.

Lloyd's members are drawn from people of financial substance, who have to pass a means test. Usually wealth of £100,000 has to be shown. Landed gentry, politicians, successful businessmen, the odd pop group, journalists, sportsmen, television personalities and others representing most aspects of successful and wealthy sectors of society all participate in Lloyd's prosperity.

The membership backs the risks, receives the profits and bears any losses. Only a small minority attend general meetings; the percentage has not exceeded 5.3 per cent in recent years. That is not representa-

tive of the whole body of the membership, for those that attended were largely the 3,000 or so who work at Lloyd's, such as underwriters, brokers, or agents.

Sir Henry Fisher and his working party concluded that Lloyd's would be best served by a representative democracy, rather than a direct democracy, with a new council comprised of all interests in Lloyd's, including non-working members who do not sit on the existing ruling committee of Lloyd's.

The new draft legislation prepared by Lloyd's will remove the legislative and disciplinary function from the hands of the Lloyd's membership and place it in the hands of the new council, which would be similar to that of the Stock Exchange.

But Lloyd's has been backtracked on the central concept of representative democracy since the Fisher proposals appeared. Although the new council is to be formed, the membership will be able to have an ultimate say in rule-making matters. Only 500 members will be needed to petition for a meeting, at which, in person or by proxy, the members can overturn any rule or bye-law which the council has recommended.

Mr. Peter Green, Lloyd's chairman, has said that it is not envisaged that this power will be invoked lightly or wantonly, and, of course, a third of the membership is required to vote in favour of any veto before a council ruling is overturned.

This change and other subtle alterations in Lloyd's version of the Fisher draft Bill are the result of heavy lobbying by se-

veral interests in the market. Many of those working in Lloyd's fear that the introduction of excessive legalism into the affairs of Lloyd's, together with an officious bureaucracy, will squeeze the vitality out of the market and lose it business.

The 300-year-old growth of Lloyd's has been fostered in an environment which has given much encouragement to the entrepreneur and private enterprise. The individual freedom of the working members of the community has been respected by the ruling bodies. Codified rules backed by law have barely existed.

There is a significant body of opinion in Lloyd's which feels that the council, as proposed by the Fisher report, would have had too much absolute power. Moreover, the big brokers were worried about the recommendation that the new council should insist that they divest themselves of their underwriting links at Lloyd's, because of potential conflicts of interests.

Over half the underwriting capacity in Lloyd's is under the management of agencies which are controlled by Lloyd's insurance brokers. The eight largest broker-controlled agencies are in the hands of the eight largest Lloyd's brokers, which between them produce nearly 60 per cent of the premium income of Lloyd's.

The Lloyd's underwriting interests of Lloyd's brokers can contribute as much as a third to overall profitability. Naturally enough, the Fisher direct proposal is being fought hard by the brokers. They want to retain the access to this important line of revenue.

To achieve this, it is important that Lloyd's sustains the spirit and essential details of the Fisher report when it comes to establishing its bye-laws. Since the new council will not be fully in action until 1982, the existing archaic structure will have to continue to serve the community.

The power of veto which they have gained for the membership should allow them a fall-back position to resist any proposed bye-law for divestment in the future. Even now, some of the large brokers are unhappy about the number of members required to vote in favour of a veto—they think that a third of the membership is too high.

Sir Henry Fisher, in his own proposals, did not include the divestment issue as part of the Parliamentary legislative programme and its future as a bye-law is uncertain. Other important proposals recommended in the Fisher report may also fail to be implemented as the arguments of all vested interests are to be taken fully into account before any bye-law is introduced.

Lloyd's has traditionally relied on consensus opinion and the assent and agreement of its working membership before arriving at major decisions. That will not change.

There are underwriters at Lloyd's who feel that the draft bill as amended by Lloyd's is too skeletal, not incorporating enough of the hundreds of Fisher proposals in the Lloyd's Act and leaving too much uncertainty for the future. Other members feel that perhaps there should be large areas of definitions of the role and duties of underwriters and brokers when possibly fraudulent claims come into the market.

And of course there are those that feel the Fisher proposals and further legislation are unnecessary.

What Lloyd's has prepared is essentially an enabling Bill. It is a comparatively brief document. The brevity owes much to Lloyd's efforts to meet its Parliamentary deadline of November 27. Lloyd's has preferred to leave most of the Fisher proposals for the new council to consider and establish through bye-laws at its discretion. This allows the new governing body the greatest flexibility and room for manoeuvre.

Sir Henry Fisher, in submitting his report to Lloyd's, said that the Lloyd's constitution and self-regulating powers it would be able to "put aside any suggestion that it is not in control of its own membership and affairs."

To achieve this, it is important that Lloyd's sustains the spirit and essential details of the Fisher report when it comes to establishing its bye-laws. Since the new council will not be fully in action until 1982, the existing archaic structure will have to continue to serve the community.

## MAIN POINTS OF THE BILL

● A new Council of Lloyd's is to be formed of 25 members to make general rules and bye-laws.

● The Council would consist of 16 working members of Lloyd's elected by other working members. Six "external members"—those who do not work at Lloyd's but who commit their wealth to allow the market to function—would be elected by other external members. Three of the Council members are to be drawn from those outside Lloyd's, who are not members. The outsiders will be nominated by the Council and their appointments confirmed by the Governor of the Bank of England.

● The Council will manage and supervise the affairs of Lloyd's but will have the power to delegate regulatory powers to a committee of Lloyd's, which will consist of the 16 council members who work at Lloyd's.

● Any bye-law which the Council introduces can be vetoed by the membership. If members wish to review a bye-law imposed by the Council, a notice in writing signed by 500 members may be served on the Council calling a general meeting.

● A disciplinary committee and an appeal tribunal to be created by bye-law by the Council.

## MEN AND MATTERS

## Taiwan takes off the brakes

Stopping the free-wheeling operations of industrial forgers in Taiwan has now become an urgent priority for Ferodo brake-makers, Turner and Newall.

The company, which opened a £2m factory in Nigeria last year to make its brake linings and disc-pads, is finding the country flooded with phony Ferodo products. If the forgeries continue on the present scale for another six months, the viability of the whole factory will be threatened, says T and N director, Ronald Somerville.

The Taiwan source of the counterfeits was tracked down and penetrated by two intrepid T and N executives, posing as buyers. They were shown around an Aladdin's cave of forged automotive components, bearing brand names like Lucas and AE as well as Ferodo.

Taiwanese ingenuity did not stop there, they were amazed to discover. They were asked if they wanted the Ferodo products as made in Chappel-on-le-Frith or in Italy. The packages for each variety were perfectly simulated. Company lawyers are working overtime to end the freebooting operations which, says Somerville, threaten more than T and N's profits. The braking distance for a car fitted with the genuine Ferodo product and being driven at 40 mph in good conditions is 56 feet. Company tests on the Taiwanese version show the equivalent figure is 517 feet.

## Prize past

Currently whizzing round New York, London and Paris, the inextinguishable vice-chairman of Svenska Handelsbanken, Torbjörn Brolund, was not at home to receive my congratulations yesterday.

This non-smoking, teetotal, chocolate-addict pillar of the Swedish establishment has been elected to membership of the Royal Swedish Academy of Sciences. He thus joins the elite group which yearly distributes

the Nobel Prizes for physics and chemistry and the economic science award instituted in Nobel's memory in 1968 by the Swedish Riksbank.

Appointed chief managing director of Handelsbanken at the age of 38, he moved up to chairman in 1968 and in 1978. Although he is now less in the centre of things at the bank, Brolund maintains a formidable list of business commitments. Chairman of Volvo and eight other major companies, he sits on the advisory boards of Unilever and IBM Europe, and reportedly runs all his affairs at top speed.

Boasting a "note" of 200 syllables a minute, he even drafts his own correspondence in shorthand, leaving his corps of three secretaries merely to do the typing. And while they are tapping away, he hears. Brolund is a chatterbox who is quick to break out of the bank's main dining room and indulge in a quick burst of Tiger Rag on the company piano.

## Moody blues

Through its own efficient channels, I hear that Guinness's Post Office Board is having trouble brushing up its corporate image. The Board decided to change its official colour from traditional British red to a distinctive shade called "French blue" to promote philatelic sales. Overseas customers have been responding so well that profits from the sales this year are expected to double to more than £1m.

But the islanders are still objecting strongly to the repainting of their pillar-boxes. Blue is a colour that few apparently like and many complain cannot be seen at night. The controversy has now focused over the head of hotelier Reg Matthews, who has flatly refused to allow the Post Office artists on his property to slap a new coat on the island's first post-box.

This was erected in 1852 after Anthony Trollope had visited the island to inquire into the improvement of its postal services.

He insists it should remain red or be repainted in its original colours—green with black lettering and gold coat of arms.

The Post Office has retired to this point over, though vice-president J. A. C. de Caris thinks that a little white lining yet to be added to the blue will remove the discordancy. Cost of the changeover, he insists, meanwhile, has "absolutely nothing" to do with the increase looming in local postal charges.

## Poetics injustice

"Aristotle and Machiavelli go home" is an improbable political slogan to be found in an election. But the two philosophers have cropped up as an issue in Montgomery County, in the suburbs of Maryland. The sort of place where people normally flock to live, it is one of the wealthiest counties in the U.S. and its institutions, above all its educational system, are considered among the best in the land.

But a high school teacher there, Cyril Lang, is being threatened with suspension because he insists on teaching Aristotle's Politics and Machiavelli's The Prince to his English class of 15- and 16-year-olds. The school board is intent on applying a uniform curriculum throughout its schools, has, in its imperial wisdom, decreed the works too difficult for teenagers and recommended them only for the specially gifted.

The bureaucratic squabble, of course, masks the political. School board elections this week pit liberals against the conservatives with a vengeance; the former want maximum teacher freedom, the latter a prescribed, and controlled, reading list.

"Man is by nature a political animal"—would surely have understood. And, Niccolò—"It is much more secure to be feared than to be loved"—would doubtless have smiled with satisfaction.

## Boarding out

"Mr. Chairman, is food going to be provided? My blood-sugar

level is dropping rapidly," demanded one shareholder towards the end of the near three-hour extraordinary meeting of insurance broker, Christopher Moran, at the Savoy. But the robust questioning in general appeared to be due neither to lack of food nor to the opening of a bar during the protracted proceedings.

"It's like Barnum and Bailey's circus," yelled a bemused bystander trying to distinguish between those directors making their exit, those making an entrance, and the legal advisers who outnumbered both sides.

David Bryans, co-opted by Christopher Moran to take the chair, had some difficulty explaining the credentials of the new board. Ronnie Reeves was to be elected, he announced. "Who's he?" several shareholders queried. "I have known him for some time," Bryans responded amid laughter.

It was not enough to gain Reeves an immediate popular vote. The first count was tied 13-13, and a recount went 19-15 against him. "Get out of that," cried another shareholder. Reeves very quickly did. A poll gave him 9.9m votes with only 8,000 against.

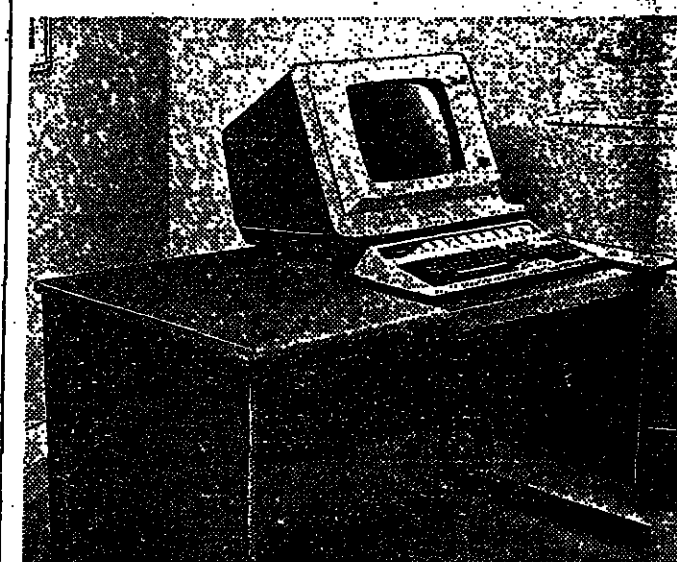
## Price age

Margaret Thatcher might have made a better historical choice than Queen Elizabeth I as a model for her determined war against inflation.

Barrister and Blackburn Labour MP, Jack Straw, began browsing through a few economic histories after the Prime Minister's weekend call for a renewal of the old Elizabethan spirit.

Good Queen Bess took her first action to stop the debasement of the coinage in 1561. He tells me, Tudor price rises were only curbed in the 1630s according to some historians. Others argue that industrial prices did not level out until more than a century later in the 1670s.

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## FINANCIAL TIMES SURVEY

Monday November 3 1980

## Office Equipment

The technology is available to produce major increases in office efficiency and productivity. But first it will be necessary to unite both users and suppliers of the advanced equipment in a common desire to bring about the new order—a task requiring the will of Government, managements and workforce.

## Big scope for savings

By Guy de Jonquieres

IT IS barely three years since Mr. James Callaghan, Britain's former Prime Minister, discovered the existence of the "chip" by happening to tune into a television documentary about microelectronics and decided that it was high time that Britain got into the act. The result was a spell of agitated consultation in Whitehall, which spawned Government support for a slew of new projects. They included State-backed ventures in integrated circuit manufacturing (Immos), computer programming (Insac) and programmes to encourage industry to use microelectronics in their products and processes (MAP and MSP).

Now a new buzzword is circulating in Whitehall: "Information technology," sometimes referred to less elegantly as "telematics." Once again warnings are being sounded that Britain is in danger of being left behind in a fiercely competitive international race, and anxious civil servants are wrestling with ideas for policies for catching up.

Information technology (IT

for short) is a somewhat amorphous term which covers broadly the application to information handling techniques of increasingly inexpensive microelectronics and advanced communications technology. It embraces a vast range of products and systems, extending from desk-top microcomputers or word processors to extremely sophisticated and costly communications services based on satellites or optical fibres.

The most recent official obituary on the subject is the report issued last September by the Cabinet Office Advisory Council for Applied Research and Development (ACARD). It finds two definitions for IT: "On the one hand, the term may be confined to the actual equipment used to collect, store, process, transmit and display information. On the other, it may encompass not only the equipment (and the software that controls it), but its interactions with human activities and the management systems necessary for the capabilities of new developments are to be fully exploited."

ACARD estimates that the world market for IT products is worth about £50bn annually and is growing by 10 per cent a year. In real terms, it believes that the potential applications are almost unlimited, stretching across banks, shops, business houses, factories, government offices and the home.

As the report points out, other countries have been quick to recognise the significance of the new technology, and governments notably in France, Japan and West Germany are giving heavy support for its development. The U.S., with its dominance of the world computer industry,

already enjoys a substantial lead. But even there, it is said, it is increasingly recognised that the development costs of advanced data communications and processing systems are likely to exceed the resources of most private companies.

ACARD recommends that in Britain, the Government step up assistance to research and development, training and implementation of IT. It proposes, among other things, that responsibility for co-ordinating Government actions in the sphere be brought under the responsibility of a single minister and that legislation be passed where necessary to stimulate and facilitate the application of IT.

Clearly, any policy to speed the development of Information Technology needs to distinguish between measures to encourage its application and the steps required to stimulate industry to supply the necessary equipment. In the former instance, the fact that the ACARD study was published at all suggests that awareness of the technology among potential users is still at a fairly low level.

## Hammering

By common consent, the office presents one of the most promising opportunities for automated information handling techniques. For years, management consultants have been hammering away at the fact that the value of investment in automation, per office employee, has been a mere fraction of investment per factory worker. The scope for increasing efficiency and productivity should therefore be enormous.

One of the most comprehensive attempts to measure the

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potential benefits of office automation was completed recently by Booz-Allen and Hamilton, the U.S. management consultancy. On the basis of a year-long study of 15 major American companies, Booz-Allen estimates that U.S. managers could achieve productivity gains worth \$125bn annually by 1985 and \$300bn by 1990 by making full use of automated office equipment.

The report finds that managers and other "professional" staff spend between 15 and 40 per cent of their time performing what they consider unproductive activities such as clerical tasks, retrieving information or chasing up work done by other people.

Most, if not all, of these tasks could be handled by office information systems at a saving that would cover the required investment in just over a year, the report says. Moreover, according to Booz-Allen, many executives are likely to decide to use the benefits of higher productivity to increase their output rather than cut staff.

As in a number of other studies in this field, the Booz-Allen report emphasises that the biggest savings from office automation will be achieved by raising the productivity of managers and other decision-makers, rather than of clerical and secretarial staff. It also tends to assume that business will be driven to automate their offices by the pure logic of economic necessity, in the form of rising overheads, the need to maintain competitiveness and so forth.

But some caution should probably be exercised in transferring the lessons of the U.S. experience directly to Europe. One reason is that American managers appear to be considerably better-equipped than their European counterparts to operate modern office machines which, for the foreseeable future, seem likely to require a proficiency in using a keyboard to enter and retrieve information.

The Booz-Allen study reveals that no less than 50 per cent of managers interviewed knew how to use a typewriter. (The

explanation, incidentally, is that most American executives have attended a university, where they were encouraged to type their examination papers). No comparable figure exists for managers in Europe, but it is unlikely that it would be much more than 25 per cent.

The economic rationale for office automation may also be different on the two sides of the Atlantic. In the U.S., the differential between the pay of corporate executives and that of secretaries and clerical workers is still quite wide. Wider, certainly, than in Britain, where the salary of a middle manager may sometimes be only twice or less than that of an experienced secretary.

It may well be, therefore, that some British companies will be moved to automate their offices more out of a desire to reduce secretarial and clerical overheads than to boost the productivity of their executive staff. For this reason, perhaps, more concern is expressed about the risk of job losses by clerical unions than is heard from the ranks of managers.

## Further training

A recent study by the Equal Opportunities Commission estimated that the introduction of office information technology would mean the loss of up to 170,000 secretarial and typing jobs in Britain by 1990. It suggested that the best way to mitigate unemployment would be for female office workers to be encouraged to obtain qualifications which would enable them to take over some added responsibilities in the field of management.

The speed at which office automation is introduced will be governed not only by its social and psychological acceptability,

but also by the wider commercial and industrial environment against which it is set. In Britain, the Government hopes that the planned relaxation of the Post Office monopoly will help lay some of the groundwork by encouraging private suppliers to offer a wide range of new terminal equipment.

But there is little purpose in offering businesses sophisticated office products, many of which will be designed to link into the communications network, if the Post Office is no more able than at present to provide the necessary private circuits and telephone lines. This is a point grasped early on by the French Government, which is spending massively on improvements to its national telecommunications network, on which it is committed to offering advanced public services such as video-conferencing, a national facsimile transmission system and satellite business communications.

But stimulating awareness of and demand for Information Technology is only one side of the coin. The other is to develop the industrial capacity to supply the products required; otherwise there is a risk of creating a new market which exporters will be only too happy to fill.

Many powerful American corporations, including International Business Machines, Xerox, American Telephone and Telegraph and Exxon are squaring off for a major battle for supremacy in the rapidly-growing U.S. market for Information Technology. By virtue of their size, resources and expertise they are certain to prove tough competitors in Europe, too, where both IBM and Xerox already have established positions in office equip-

ment. Devising a strategy which strikes a satisfactory balance between the consumer, in the form of the users of information technology, and the producer, in the form of the industries which supply the necessary equipment and services, may not be easy.

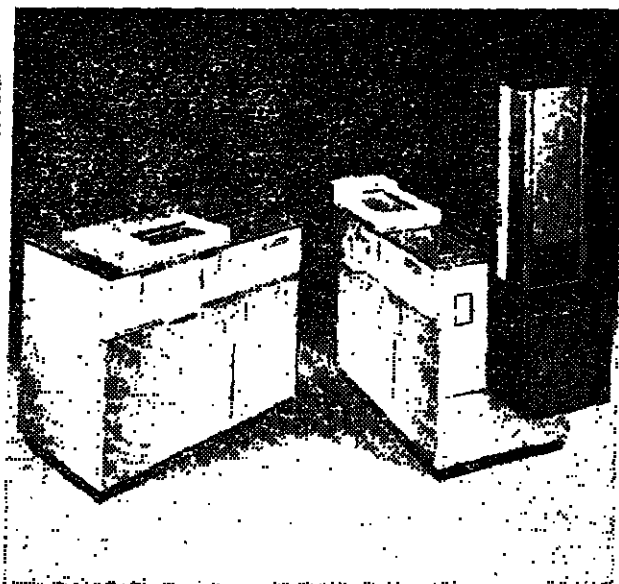
The still undecided question of how the British Government should award the forthcoming contract to computerise the Inland Revenue's Pay-As-You-Earn operations is seen by many as a test case of the issues involved. Ministers have been deeply divided between those who want the order to go to International Computers (ICL) in order to strengthen Britain's principal computer manufacturer, and those who favour opening the bidding to U.S. companies in the belief that they will offer a superior technical solution.

The arguments remain finely balanced, and the issues involved are unlikely to be finally resolved whichever way the decision goes. The debate about how best to harness Information Technology once it gets going, is likely to range considerably wider and to be even fiercer.

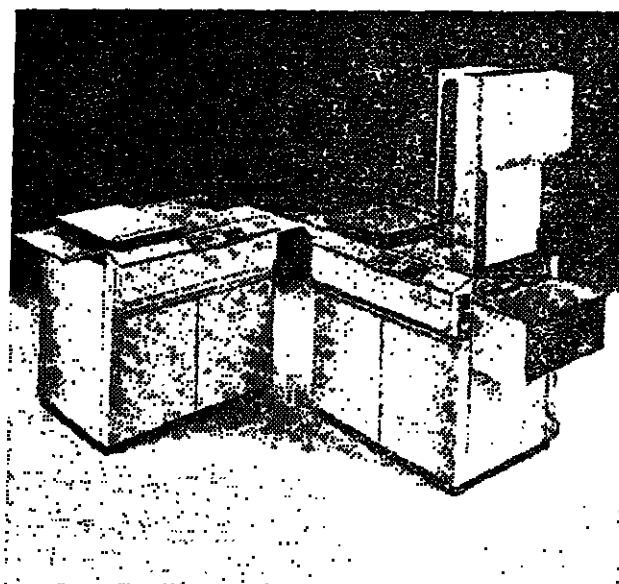
But recent experience in other, related fields, such as microelectronics, seems to point at least to two general conclusions. The first is that, despite the growth of overt and covert protectionism, the big winners in the commercial battle for sales of advanced technology products are those who think in terms of world markets, not national ones. The second is that in advanced technology, those who aim merely to catch up, rather than to take a clear lead, are often condemned to fall further and further behind the pack.

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## OFFICE EQUIPMENT II

## Rising reputation as a competitive centre

## WEST GERMANY

JEFFREY BROWN

WEST GERMANY is the largest office equipment market in Europe. To the extent that the country possesses the largest economy within the EEC, this is understandable. But the size—and projected rapid growth—of demand for data processing equipment also reflects a number of other important influences.

One key is the technological strength and ingenuity of the West German electronics engineer. Among the major European electronics groups, Siemens has made significant inroads into the near stranglehold once held on the European computer market by the U.S. monolith in the industry, IBM. At the other end of the business, Nixdorf has an enviable reputa-

tion in small computers as well as a number of important markets shares.

Similarly, Triumph-Adler is pushing hard for a greater slice of available business, and doing so on a world-wide basis now that it is backed by the powerful financial muscle of the Volkswagen motor group.

Kienzle and Ruf figure prominently on the list of successful German companies in office electronics; among those with a multinational manufacturing base, AEG-Telefunken, Manemann and BASF stand out.

Overall, West German data processing sales expanded by 22 per cent in volume terms last year. Small and office sized computer installations rose by 21 per cent but the sharpest growth in the industry was concentrated in process control and mini computers. Expansion here was no less than 35 per cent in 1979, and German manufacturers

picked up a large slice of the business.

Demand for data processing equipment continues to rise at all levels. During the second quarter of 1980 telecommunications production in West Germany advanced by close on 16 per cent while output in computers expanded by almost 10 per cent. By 1984 the market in the Federal Republic for copiers, word processors and office systems is reliably forecast to be around 50 per cent greater than it is today.

IBM remains the market leader, both in technological advance as well as in pricing. The U.S. giant still has a share of the German data processing market in excess of 50 per cent (if only just these days) but the company faces a number of increasingly competitive battles. Siemens now controls around 18 per cent of the market in mainframe installations in Germany while in small systems

Nixdorf holds some 30 per cent of the German market.

Moreover, as part of a broad strategy a number of German companies have linked with Japanese producers and in so doing have intensified the battle against IBM domination. Siemens has strong links with Fujitsu; earlier this year chemical giant BASF entered an agreement with Hitachi allowing Japanese hardware to be marketed under a BASF label.

The German market is thus increasingly acquiring a reputation as one of the most competitive centres for office equipment in Europe—and the key to this trend is the sheer size of the market in European terms. According to Diebold Deutschland, mainframe installations in Germany in 1979 rose by 15 per cent to 24,000 providing the Federal Republic with the broadest computer base in western Europe.

Far and away the leading manufacturer is Siemens. As an electronics group, Siemens ranks as Number Two in Europe (after Philips) in terms of turnover and is Number Four in the world. It is successful, with earnings growth averaging 10 per cent per annum over the past five years, and despite the strength of the DM over the period it has been a major and consistent exporter. Currently, some two-fifths of West German output finds its way overseas.

The company represents one of the commanding heights of European technology, backed by an annual research and development budget in excess of DM 3bn.

## Contrast

In contrast to power engineering and telecommunications, Siemens' data and information systems operations are relatively modest, accounting for just 6 per cent of sales in the year ended September, 1979. But the division, working from this small base, is the fastest growing within the group: orders stood at DM 2bn at the end of 1978-79, against DM 1.4bn two years earlier, and profits over the period had advanced by a third.

The main contributor to sales in this division, data processing, moved out of the red in 1977-78. The other activity, small computers and peripherals, continues to make start-up losses and is likely to stay in the red for a number of years yet. The company's project development spending is heavy: this topped 30 per cent of external sales last year, compared to less than a tenth at ICL of the UK. After the abortive formation

of Unidata, the French, Dutch and German grouping which was to have been the main Euro-challenge in computers, Siemens is now firmly established in electronic data processing. Orders on hand at September, 1979 suggest that the group is already some four-fifths of the size of ICL. The company now claims a 9 per cent share of the European market.

AEG-Telefunken pulled out of mainframe computers in the mid-1970s when selling to Siemens, but the company has a sizeable stake in the smaller business machine market, and is the largest typewriter manufacturer in the world. A late entrant to the market for electronic typewriters, AEG's Olympia operation began a launch in this field in Germany in July 1979. The new electronic product aims at the standard office machine market.

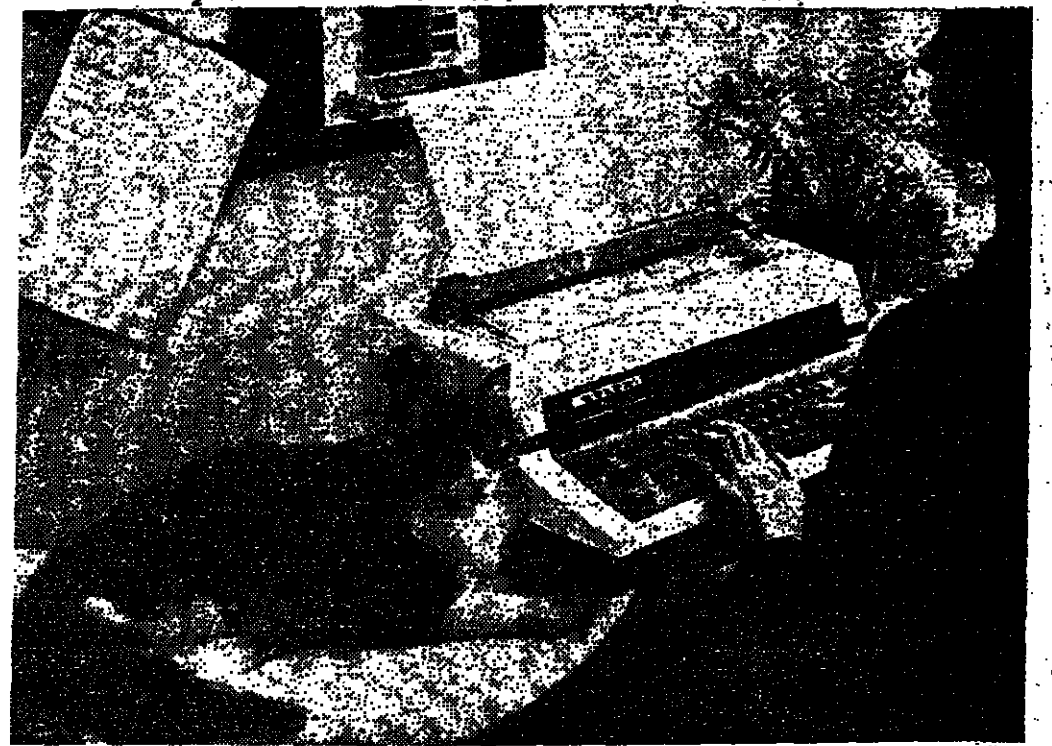
## Virtues

In comparison with the financial virtues displayed by Siemens, AEG's record is blighted almost beyond recognition. After years of loss-making, it came close to financial collapse last year only to be rescued by a massive capital injection by the State and the German banking system. Losses this year are going to be heavy, but the management claims some progress on along the road to profits for 1981.

During the first five months of this year new orders at Nixdorf rose by 43 per cent and—in contrast to much of West European industry—the company has been busily signing up new staff. Founded in 1952 and still family controlled Nixdorf's market shares in its field are two to three times larger than its closest German rivals.

For new owners Volkswagen, Triumph-Adler represents the first major diversification away from the motor industry. The company has a wide range of products covering the area of typewriters, computers, text processors, copiers and calculators. The cash backing now available to its management is allowing the move into an increasingly ambitious range of electronics to be accelerated.

For its part, BASF entered the computer industry as recently as July this year when agreeing to market Hitachi computers under a BASF name. The chemical group has excellent credentials in peripherals and media supplies, and clearly it aims eventually to become a complete systems supplier. It has already struck out into the personal computer market both in Germany and in the U.S.



In a further effort to help reduce the overall noise levels to which office workers are subjected each day, the Office and Electronic Machines group (OEM)—UK distributors of Adler and Imperial office equipment—have launched a new quieter "golf ball" single element typewriter. As the latest in the Adler and Imperial electric "golf ball" ranges, the new machines are called the Adler SE 1000 CDL and the Imperial SE 5000 CDL and have been "integrally insulated" to ensure a noise level emission of no more than 68 decibels.



There is fierce competition between European office furniture manufacturers, particularly in the area of furniture suited for use with new technology. The Swedish-made VDU furniture (above) from NKR is described as being ergonomically correct with the operator's comfort paramount in the provision of both independent height and lateral adjustments for keyboard and display screens, tilting of the screen surface to obtain the correct head position and recessed legs for ease of sideways movement.



A new generation of three electronic typing machines from Switzerland has just been launched by Hermes in the UK. The machines have been designed and developed to optimise speed, comfort and efficiency in day-to-day typing, with simplicity of operation. The manufacturers claim that the three top-tronic typewriters fill the gap between the conventional

electric typewriters and the more sophisticated word processor. For maximum speed the top-tronic range uses a daisy wheel printer and has a print-out speed of 16 cps. The 100-character print-wheel can easily be changed to a different type style. A carbon ribbon cassette is used for cleanliness and ease of operation and there is an additional facility for stencil typing.

The keyboard is comprehensive and all the functions are clearly designated including the illumination of the line of type. The top-tronic 30 (above) is claimed to introduce the typist swiftly and easily to the world of electronic typing. Selling for £898, it is the basic model of the range with no text memory, but a full range of page setting functions to save the typist time and effort.

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## OFFICE EQUIPMENT III

# Manufacturers speed up new developments

**JAPAN**  
JOHN FUJII

JAPAN HAS been lagging behind Western countries such as the U.S. in office automation by at least five years. Office automation is necessary to improve management productivity in which the Japanese have been slow although they have been world leaders in industrial productivity. But now the Japanese are stepping up their development of office equipment such as word processors, copiers, facsimiles, small business computers, and peripherals.

The biggest bottleneck to office automation in Japan up to now has been the Japanese language which has held up growth of the Kanji (Chinese character) word processor. At present there are two types of Japanese word processors. One is the tablet type in which an electronic stylus is used and modelled much on the old mechanical Japanese typewriter. This has a battery of 3,644 characters.

The latest Japanese word processor is the type developed by

Toshiba Corporation and Fujitsu Limited which provides up to 80,000 characters available in a floppy disk storage. Fujitsu's OASYS-100 model for instance, provides 80,000 kanji, 20,000 proper names and 48 common expressions, and Toshiba's JW-10 makes 80,000 characters available.

The Japanese manufacturers have taken the idea of their word processors from the U.S. It was first developed at Massachusetts Institute of Technology (MIT) and at Harvard, where the kanji processors were developed for the Chinese language.

Toshiba introduced their JW-10 model Japanese word processor in 1978. They were quickly followed by Sharp, Ricoh, Canon, and Nippon World Processors in 1979 and in 1980, Fujitsu, Nippon Electric, Matsushita Communications, Fomtel and Oki Electric have come out with their models. So far, only Toshiba, Fujitsu, Oki, Ricoh and Canon have the new keyboard-display word processors while Sharp, NEC, Matsushita and Mitsubishi Electric cling to the older tablet model. Copies are made either by 16-dot or 24-dot printing. Toshiba already has a 24-dot method which provides a better final copy.

An industry estimate is that there are now between 1,000 and 1,500 units in actual operation throughout Japan and growing rapidly, while Toshiba said that the price of their unit has come down from ¥8.3m (\$90,000) to ¥2.6m (\$12,380). Kenichi Mori, chief analyst at Systems Institute, said that eventually every section in major Japanese offices would need at least one.

### Language barriers

The Japanese word processor is definitely not for export. The Chinese language is basically different from the Japanese and the Japanese unit cannot be used in Chinese-speaking countries. There is some possibility that the Japanese processor could be converted for use in Korea where the Hangul alphabet is similar to the Japanese Kana alphabet. In simple terms, the Japanese word processor transcribes the words expressed in Kana on the keyboard to Kanji characters in the written document interspersed with the necessary Kana phrases.

There is also rapid growth in Japan for English word processors, especially in trading companies which have a lot of English correspondence. One shortcoming, however, is a lack of middle management people who can handle word processors, either in Japanese or English.

The next development in office automation is for the word processors to be linked to communications equipment so that there can be a link between sections in one office or between the main office and its branches. This would speed up the preparation and transfer of documents, explanations and specifications as well as ordinary business messages.

The addition of an automatic telex transmission facility will enable the Japanese message to be translated into English by an automatic translating machine and then transmitted abroad. Thus a Japanese message can be put into an office automation system, translated and transmitted overseas.

In the future, facsimiles may be combined with an office computer, word processor, copier,

optical character recognition (OCR), private telephone exchange and other office peripherals. Fuji-Xerox has a patent pending for an Ethernet office interconnection while the Xien system is becoming available for satellite communications. Text generation equipment, typewriters, word processors and dictation units—duplication equipment, such as duplicators and copiers as the largest office market segment.

Altogether, there will be more than \$16bn-worth of office automation equipment world wide by 1990, according to a study made by Predicats Inc. This compares with less than \$5m in 1978.

At present, the world-wide automated office equipment business is dominated by the Xerox group with its affiliates such as Rank-Xerox in the UK and Europe, and Fuji-Xerox in Japan and South-East Asia. But other companies such as Exxon, Kodak, Wang Laboratories, Burroughs and Lanier are expected to move into the market during the last half of the 1980s.

There are more than 20 companies engaged in the copier market worldwide. The Japanese have cornered the lower end of the market while the foreign companies concentrated on the high-volume users. Most Japanese now sell in the low-to-middle segment of the market but are now moving into the higher end where profits are greater.

Ricoh, Canon, Minolta and Sharp are the major Japanese companies. Fuji-Xerox and Ricoh dominated the Japanese copier market up to now but Canon, Sharp, Toshiba, Konishiroku and Minolta have launched sales offensives for the anticipated 30 per cent growth in the market.

Ricoh is planning to sell direct in the U.S. and Europe where, previously, they sold through Savin in the U.S. and Nashua and Kalle Infotec in Europe. Present plans are for Ricoh to sell new models directly and the older models through their present arrangements until 1983 when they hope to renegotiate their contracts.

Some of the copier manufacturers are promoting and marketing peripheral equip-

## Canon

CANON: Sales for 1979, Yen 180bn; net income, Yen 9.5bn. Like Ricoh, a broadly based camera group with strong ambitions in the area of business machines.

Cameras account for 52 per cent of turnover with copiers representing 24 per cent and calculators, 13 per cent. Exports—mostly cameras—account for nearly three-quarters of sales.

## FUJITSU

FUJITSU: Sales for year ended March, 1980, Yen 500bn; net income Yen 15bn.

ment such as sorters and automatic document feeders—previously adopted by Fuji-Xerox, IBM Japan and Canon for their high-speed models which can provide 40 copies or more per minute.

Companies like Toshiba, Konishiroku and Matsushita also intend to market peripherals for use with medium- and high-speed copying machines. Plain paper copiers are being incorporated into systems with other office machines such as small computer facsimiles, word processors and microfilm equipment.

### Rapid growth

In Japan the facsimile manufacturers are mainly electrical appliance and office machine companies. The number of facsimile units installed and operational in Japan was estimated to be between 150,000 and 160,000 at the end of 1979. Annual production is now approximately 50,000 units which is worth up to ¥60bn (\$285m). Rapid growth of 30 per cent per annum will make it a \$715m industry by 1983, according to industry estimates.

Small office computers are a story in themselves. According to MITI (Ministry of International Trade and Industry), there were 58,944 systems worth \$13bn in Japan at the end of

## Some major participants in the business equipment market in Japan

### MATSUSHITA

MATSUSHITA: Sales for year ended November, 1979, Yen 1,736bn; net income Yen 61bn. Largest consumer electronics group in the world with brand names like Panasonic and Technics. Big in home appliances and radio equipment. Communications and audio visual operations are concentrated in the 67 per cent-owned, Matsushita Communication Industrial.

### NEC

NIPPON ELECTRIC: Sales for year ended March, 1980, Yen 705bn; net income, Yen 12bn. Major telecom-

munications group and number seven in world rankings. More than a quarter of sales stem from computers and industrial electronic systems. Plans to set up an integrated circuit plant in Scotland which would represent Japan's first ever microchip investment in Britain.

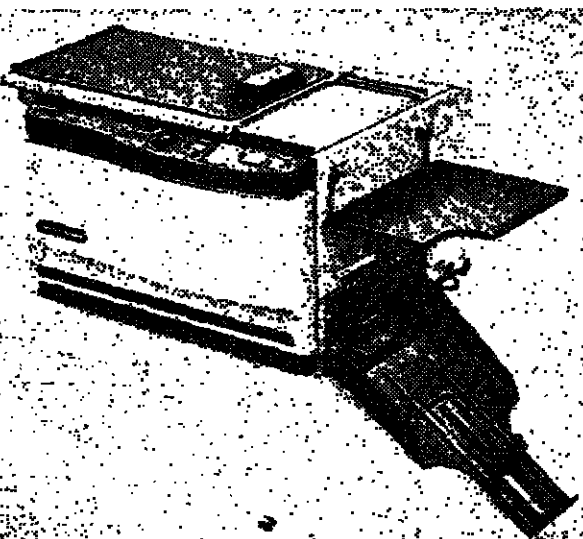
### RICOH

RICOH: Sales for year ended March, 1980, Yen 223bn; net income, Yen 12bn. Major camera group, but also Japan's largest producer of copiers.

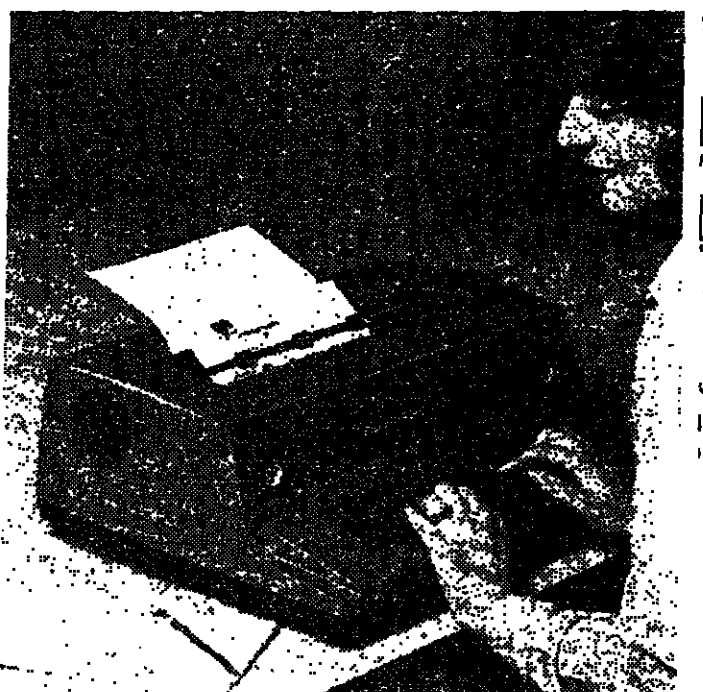
Cameras still comprise more than half of turnover, but a major push into business machines has lifted copier sales to a quarter of total with calculators contributing 13 per cent. Just started direct selling in Europe.

### HITACHI

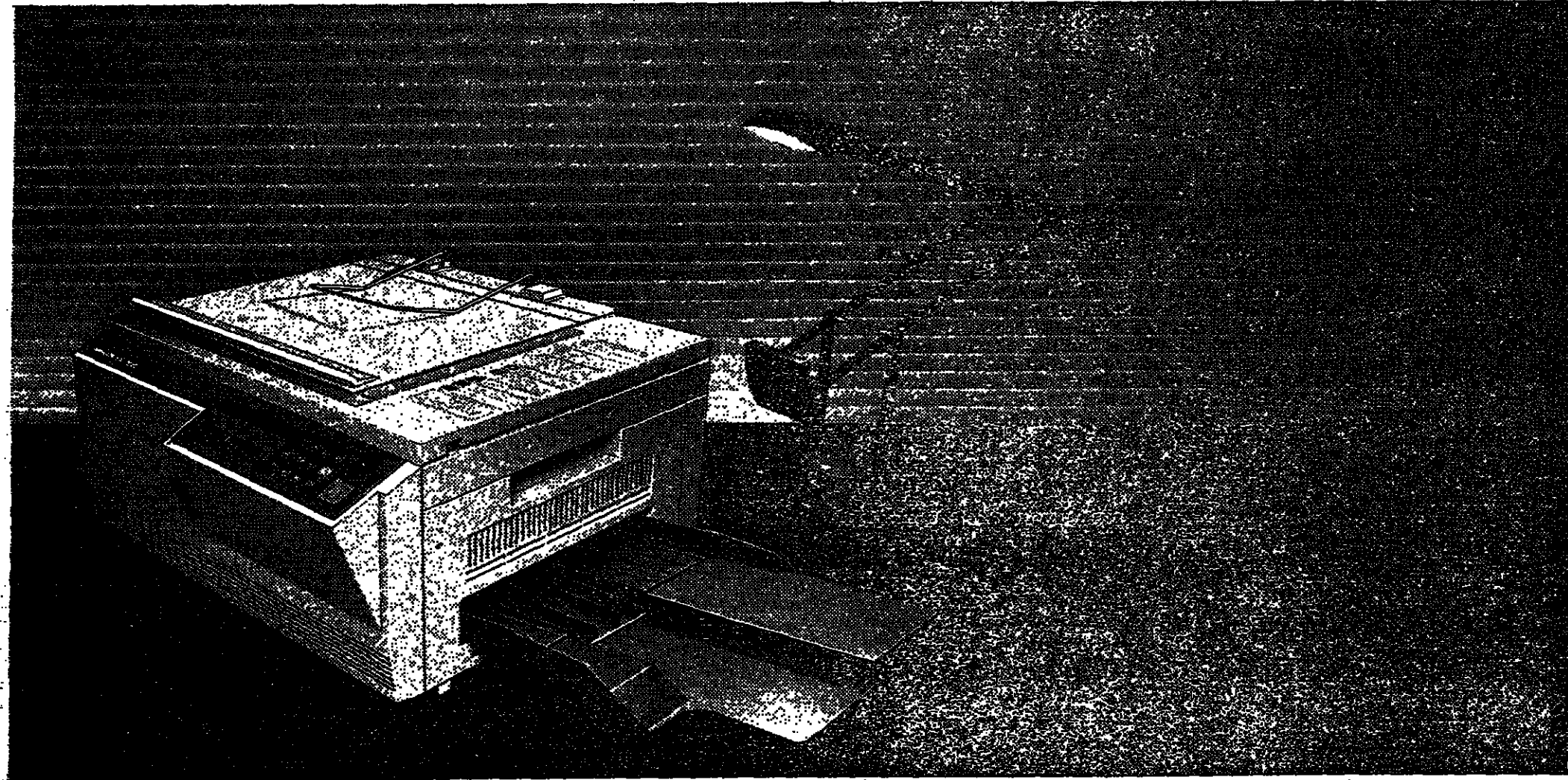
HITACHI: Sales for year ended March, 1980, Yen 1,800; net income Yen 50bn. Largest electrical machinery maker in Japan. Traditional heavy electrical base still dominates, but sales include a 26 per cent contribution from communications and electronics. Has links in computers with Fujitsu. In Europe, marketing links forged with National Semiconductor, Olivetti and BASF.



A new versatile plain paper copier from Toshiba performs a wider range of copying tasks than is usual. It is the BD-3802, now available in the UK—from the distributors, the Office International Group



A new lower-priced electronically controlled typewriter is being introduced from Japan, with the aim of extending the market into the smaller business area. With a price little more than the cost of the average manual typewriter, the new "Popular" single-element typewriter has the same electronic simplicity that powers the more expensive SR-25-CE. Both machines are from Silver-Reed, one of the world's leading typewriter concerns. The "Popular" has versatile electronic carrier operation, controlled by a microprocessor.



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FT3/11

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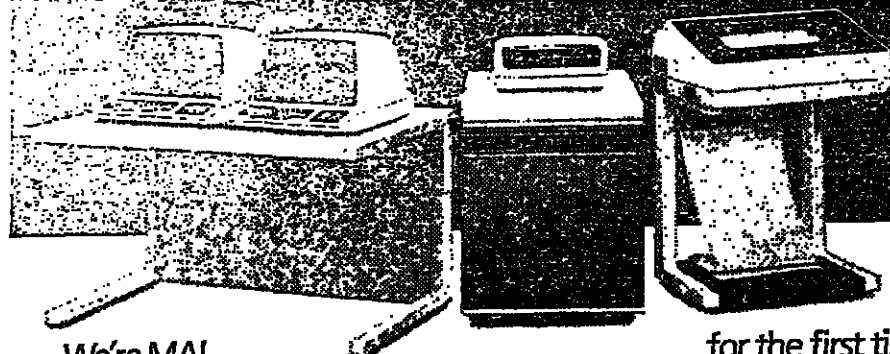
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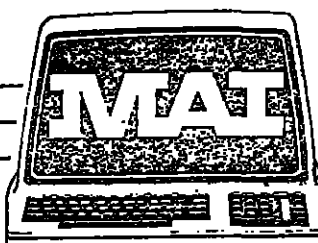
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FT2



Meeting growing company needs



**INTERNATIONAL COMPUTERS:** Sales in 1979 were £824m. The only British and European independent manufacturer of mainframe computers, ICL was cut free from the National Enterprise Board at the beginning of the year.

ICL office systems include minicomputers and word processors. Only real challenger to the Americans in big mainframes outside Japan.

## NEXOS

**NEXOS:** Pledging UK company, established by National Enterprise Board two years ago to develop and supply modern office products and

systems. Does not make own products but works with manufacturers including Multibyte and Logica in Britain and imports some Japanese equipment. Product range includes powerful computer made by Exon subsidiary Delphi, word processors, facsimile machines and copiers. Its strategy has yet to be fully tested in the market place.



**GENERAL ELECTRIC:** Sales for year ended March 1980, £35m; pre-tax profits £415m. Largest electrical group in UK and number eight in the world rankings. In profit terms, electronics, automation systems and telecommunications is the biggest single operating division. Well over £100m was spent on acquisitions last year but balance sheet still contains cash balances of £600m.



**GESTETNER:** Sales for year ended October 1979, £268m; pre-tax profits £19.1m. Major manufacturer of stencil duplicators. Has recently moved into copier market following launch last year of plain paper copier; 90 per cent of sales arise outside the UK, helped by strong global network of distributors. But late move into copiers and strength of sterling has put earnings under pressure.

## REDIFON COMPUTERS LIMITED

**REDIFON COMPUTERS:** Sales in 1979 were £14.5m. Part of the Rediffusion group, which turned over £218m in 1979. The group's specialisations include the development of hardware and

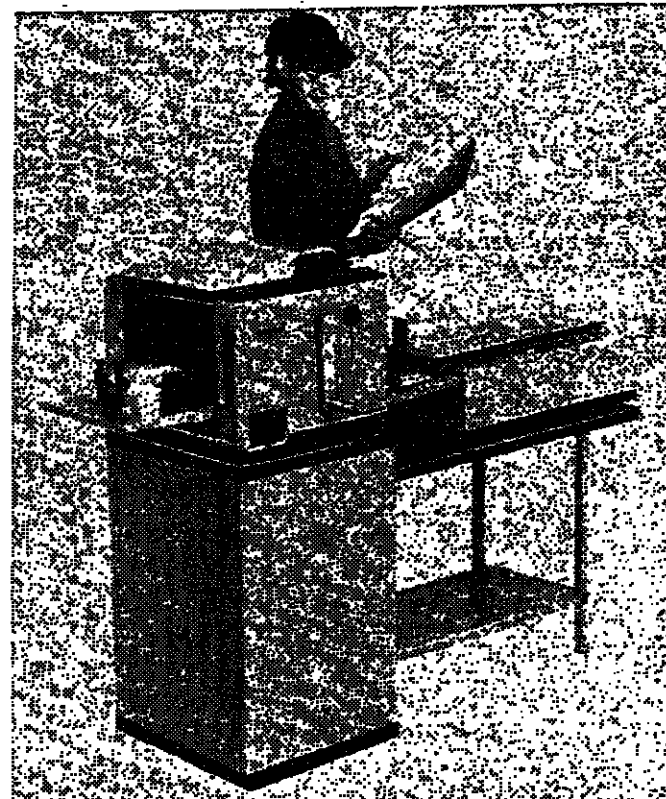
software for aircraft flight simulation. The computer group's thrust in the office is based on word processing and its ability to manufacture view-data sets economically.



**PLESSEY:** Sales for year ended March 1980, £751m; pre-tax profits £69.1m. Broadly-based electronics group with around half of sales in telecommunications of which some three-fifths stems from main frame telephone equipment. Plessey has important interests in office data and control systems stake in ICL computer group sold at the end of 1979.



Hille International of London have introduced the "Supporto" chair range (above), aimed to combine strength with an outstanding degree of comfort and versatility. The chairs have been designed so as to give the maximum freedom of movement. The shape and adjustability of the back means that fatigue is reduced because the spine can be firmly supported while sitting in almost any position.



The fully-automated Gestetner 1566 duplicator is combined with a high-speed facsimile scanner to complete a self-contained FAXIL system. Such systems, says Gestetner, have given an entirely new sophistication to the stencil process. Five years ago, 80 per cent of Gestetner's revenue came from stencil products, but by next year 50 per cent of its turnover will come from other products and processes.

# Government moves to regain lost ground

## FRANCE

GUY DE JONQUIERES

A FEW months ago, M. Jean-Claude Pellissot, a senior official of the French Industry Ministry, offered this bleak assessment of France's office equipment industry: "It suffices to say that its production is about 200m for a market attaining nearly 500m. There is nothing more to add. The French industry has been wiped out."

Despite this parlous state of affairs, the French Government still hopes to revive office equipment manufacturing. It believes that the increasing importance of computer technology and communications in the office can provide France with a promising opportunity to make up lost ground.

The Government plans to tackle the problem in two main ways. First, by creating the environment and infrastructure in which business users will find it worthwhile to take advantage of the most advanced office products and systems on the market; and secondly, by actively supporting the efforts of French manufacturers to supply these products.

A top priority, carrying the seal of approval of President Giscard d'Estaing himself, is the urgent modernisation and expansion of France's telecommunications network, until recently one of the most aged and inefficient in Europe. The French PTT (telecommunications administration) has been authorised to spend the equivalent of about \$60m annually. It has already doubled the number of subscriber lines installed to 15m in the past five years and plans to double this number again by 1982.

As a relatively late starter, France enjoys one advantage which will stand it in good stead over the long term: it is able to install the very latest equipment available. When its modernisation programme is complete, it aims to have more digital exchange lines in service than any other European country, providing a system that will be ideal for carrying computerised data, as well as voice communications.

About two years ago it inaugurated a data communica-

tions network, called Transpac, employing a technique called packet switching, which allows large volumes of data to be transmitted at relatively low cost. It also proposes to launch a satellite in 1983 to relay sophisticated business communications between offices in different parts of the country.

It is pushing ahead with the development of facsimile transmission services, a form of "electronic mail" which enables documents to be sent across telephone lines. It is also operating a national "video-conferencing" system, which makes it possible for businessmen in distant centres to see as well as talk to each other.

## Pioneering

France's vision of the future does not stop at the business customer. It is also pioneering the development of low-cost computer terminals for home use. As well as developing a videodata service similar to the British Post Office's Prestel system, the PTT is working on plans to create an electronic telephone directory: the aim is to replace printed directories by supplying every telephone subscriber with a sample terminal, free of charge which can retrieve numbers stored in a central computer.

To help French office equipment manufacturers prepare themselves to satisfy the vast demand that this emerging new market is expected to unleash, the Government takes a close hand in shaping their industrial and commercial strategies.

The PTT, the Industry Ministry and other state agencies have considerable resources at their disposal to support the development of new products. One criterion (based partly on the Japanese example) is that manufacturers should aim to produce equipment that is suitable for export as well as for the home market.

Under the watchful eye of the French authorities, the industry has undergone a substantial amount of re-organisation in recent months. One of its results is the emergence of CIT-Alcatel, the telecommunications equipment subsidiary of the big Compagnie Générale d'Electricité, as a leading force in the French office equipment industry.

The company already has an impressive record in the development and marketing of

telephone switching equipment and claims to have installed about 60 per cent of the world's digital exchange lines. It now intends to use its experience as the basis for its expansion into office products, which will be handled by a newly-created division within the company, trading under the Alcatel brand name.

Its first major diversification step was the acquisition, two years ago, of Friden, the second biggest U.S. making equipment manufacturer. It has acquired the European marketing rights for word processors, made by AES-Wordplex of Canada, with which it plans to collaborate in developing future products, and it is developing its own facsimile machines.

CIT-Alcatel recognised early on that to succeed on world markets, it would need a strong international marketing network. It also realised that to build up one itself from scratch would be a lengthy and extremely expensive business.

These calculations led it to acquire earlier this year the business machines activities of Romeo Victors of Britain. While many of Romeo's products were becoming somewhat outdated and were based on decidedly low technology, they came with a sales and distribution organisation employing about 1,000 people in 10 countries, including the U.S., Canada, Belgium, the Netherlands, Australia and South Africa.

One of CIT-Alcatel's main domestic rivals, Thomson CSF, part of the giant Thomson electronics and electrical group, is also eyeing the office market with interest. But, at present, it claims to be interested more in supplying communications equipment for sophisticated information systems and advanced technology products than in offering a complete range of office products.

Thomson is seeking, with mixed success so far, to build up an international market for minicomputers produced by its SEMS subsidiary. It has also agreed to co-operate with Xerox of the U.S. on the development of videodisc computer memories, which would enable vast quantities of data to be stored at low cost. Other link-ups between the two companies may follow, possibly in the field of computer peripherals.

Earlier this year, a new force emerged on the French scene in

the shape of St-Gobain-Pont-à-Mousson, the big industrial group hitherto best known for its manufacture of glass and pipes. Though only peripherally involved itself in electronics products, it has made two major moves to expand its interests in this area.

With the tacit approval of the French Government, St-Gobain has acquired the controlling interest in CIT-Honeywell Bull, France's main computer company, in which Honeywell of the U.S. has a 47 per cent share. At about the same time, St-Gobain also purchased a 23.3 per cent stake in Olivetti, the big Italian business machine manufacturer. The ultimate objectives of St-Gobain's strategy and how it will set about managing its new interests, remain unclear. But few believe that it intends to remain a sleeping partner, and considerable speculation surrounds its next moves.

CIT has long been handicapped by having two different families of computers in its range, a legacy of the successive mergers out of which it was formed. This split model range is a disadvantage because it makes it difficult for customers who start with a small machine to graduate smoothly to bigger computers as their needs grow.

## Subsidies

It also helps to explain why CIT's share of the French computer market, about 27 per cent, is barely half of that enjoyed by International Business Machines, despite Government subsidies totalling FF1.2bn over the past five years and a preferential procurement policy which has worked in its favour.

Some of CIT's more nationalistic critics accuse it of relying far too heavily on products developed or manufactured by Honeywell in the U.S. It remains to be seen how this reliance on American technology will be reconciled with the French Government's avowed intention to build up a strong and independent electronics industry.

It is also uncertain how CIT's product range will mesh in with that of Olivetti. The question has become particularly pertinent since the Italian company agreed, earlier this year, to market in Europe computers made by Hitachi of Japan, which appear to compete with some of CIT's own models.



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# Cutting down on repetitive work

## WORD PROCESSING

GEOFFREY CHARLISH

TEXT WAS being stored more than 50 years ago when it was realised that depressed typewriter keys could be made to punch holes in "piano" cards or paper tape. Such records from different sources were joined up, selectively, and "played" to make a new document.

"Word processing" is, therefore, not so new. However, the expression itself was unknown until IBM coined it in 1965, with electric typewriter-based systems. In Britain there were few stirrings until the early 1970s and, since then, machines have moved on from paper to magnetic tape, cards and discs. From about 1975, visual display units began to appear.

There are now some 40 suppliers of "dedicated" word processors (that is, those with no other function) in the UK, with many more offerings of microcomputers that can be suitably programmed. Recently, however, the dedicated system makers have tended to bestow other abilities on their units—business computing, for example—yet another sign of the general convergence of office electronics.

### Mechanism

Systems can be self-contained ("stand alone" in the jargon) or can consist of several keyboard/displays sharing one big store ("shared logic"). The latter can have upright "real-paper" format or TV-shaped screens, single line electronic displays ("thin window"), or no display at all—just a typing mechanism.

More than half the installed base of dedicated machines have no screen, but the proportion is now dropping. It is this wide choice, coupled with the fact that word processing is still something of a mystery in many British offices, that calls for a little clarification. Although the bigger companies employ in-house professionals to make decisions, there is no doubt that thousands of smaller concerns are still wondering what to do.

What point is there in storing typed material at all? Quite often, the answer is "none."

For example, in the chairman's or managing director's office where letters and reports seldom repeat themselves, a good electric or perhaps electronic typewriter will suffice.

At the other extreme, where, for example, individually typed sales letters are thought to be desirable, word processing assumes the dimensions of a small printing department. The letters are perhaps 90 per cent identical, with 10 per cent of variability (names, addresses and possibly other personal data) scattered throughout the letter.

The first step therefore is to try to establish the amount of variability in the typed output, determine what cost gain would result from the increased productivity provided by various types of machine and weigh this against the capital expenditure or rental cost.

What can word processing do? In essence, it electronically stores all the characters in the text as the typist works, in such a way that words, sentences or paragraphs can afterwards be changed or moved to suit the various recipients of what is, basically, the same letter. Thus, the typist does not have to type out the bulk of the text over and over again: the machine will insert the recipient-dedicated passages in the right places, closing up or opening out the text automatically.

A logical development—in its nascent stages at the moment—is to dispense with the next task, enveloping and posting, and send the various versions of the electronic memory over a telephone line, in-house, nationally or internationally.

The vague words are "electronic mail." In the heat of new technology one tends to forget, however, that telex can already do this: a number of makers are offering word processing terminals linked to a telex port with appropriate queuing, routing and priority facilities (the so-called "store and forward" systems).

### Integration

The ultimate solution—the much heralded "electronic office"—would integrate the digital signals from the word processor with those derived from other information systems (video, facsimile, external data bases and so on), and allow the

intercommunication of all of them, regardless of location. But it is early days yet: the concept calls for a fast digital public communications network. There are some equipment offerings that allow it to be done in-house.

What criteria then, determine the choice? To begin with, those with an existing mainframe computer should at least examine the prospects of additional software / storage for word processing.

If no machine exists, thought should then be given either to acquiring a small one—or going to a dedicated system. The predominant thinking at the moment seems to be that word processing is an independent office function and likely to remain so until integrated office equipment become commonplace.

### Modular

Whether the dedicated system is to be stand-alone or shared logic is a matter of work-load: if, at the start, the load is high, several VDU/keyboard terminals, working to one processor, might be the answer, particularly if some or all of the units have access to the same documents. But modular stand-alone systems that can be "grown" with the work-load are available.

Perhaps the most important criterion is the amount of material to be kept "on ice." Large numbers of lengthy documents imply a big memory.

There is a wide choice in stand-alone capacity, from up to 1,000 characters on electronic typewriters (the "bottom end" of word processing) to hard disc which is both capacious (many millions of characters) and fast. In between is the so-called "floppy" (flexible) disc which nowadays very often plugs in to vertical slots next to the screen; they hold about 0.25m characters each. There are also magnetic cards—IBM's forte—holding up to about 10,000 characters.

Dual discs are a worthwhile investment, since text can be moved between them for added convenience and working flexibility.

Is a display necessary? The extent of editing is the key here: the more there is the harder it becomes without one. The most realistic are those that look like an A4 sheet of

paper, having black-on-white characters. Some "bottom-end" machines have a one-line display on which the last typed (or some other) line of text can be seen for immediate correction and minor editing tasks.

The "top-end" machines can be very versatile on the screen. The text can be scrolled up and down (like the movie film credits) and sometimes sideways, as well. Right-hand margins can be justified (all the words ending on a vertical line, like this printed column); headings automatically centred, selected words displayed in bold, lines numbered for reference.

Generally, a cursor (a short line under each character) is moved to various text change points. The new material is then typed and the processor accommodates the new text, re-justifies and so on. Automatic column forming of figures or text is common.

Often, machines can print text while other passages are being edited on the screen. Some will look for a specific word or passage throughout a text and substitute new material. Some even have computer-like facilities—for example, they will search an address list for, say, Surrey addresses only.

Since prices can range from £1,000 or so to £100,000, clearly the application must be fully defined first.

### Hottest

Word processing is now big business and even the oil companies have been attracted into it—Exxon's Vydec, for example. For dedicated and micro-based systems, the market is worth perhaps £150m to £200m in Britain alone. According to Pedder Associates, the research company, IBM has 30 per cent of the installed base, due to a lengthy presence. The hottest contention is for the VDU-based stand-alone system—it will almost certainly prevail over the others.

In this league table, AES-Wordplex comes out on top with 21 per cent of installations so far, followed by Data Recall (14 per cent), Vydec (12 per cent), Philips, IBM and DEC. About a third of the installed base is shared by the 35 or so other makers. The figures may not, of course, reflect current rela-

tive sales positions.

Useful publications include: Word Processors in the UK, Computer Installation Series (1979-80), Pedder Associates, London (01 633 0866); The International Word Processing Report (annually), Geyer-McAllister International, Richmond, Surrey (01 948 1814), and the monthly magazine, "What to Buy for Business," London (01 584 1272).

The Olivetti TES-401 desktop word processing system (right); an example of how the transition from electronic typewriter to word processing can be made without radical change, either in personnel or in basic physical appearance of equipment. British Olivetti claims to head the unit sales league, with 15 per cent of the UK market for stand-alone, single-line, part-page word processors.



## Other major European participants in the business equipment market

### SIEMENS

SIEMENS: Sales for years ended September, 1979, DM 28bn, net profits, DM 688m. Fourth largest electrical group in the world and number two (behind Philips) in Europe. Half of sales arise outside Germany, and of the total around a third stems from telecommunications and data processing. Last published balance sheet contained cash of DM 11bn, roughly equal to the stock market value of group.



MATRA: Sales for 1979, FFrs 4bn, net profits FFrs 200m. Major defence and aerospace group which has recently diversified into telecommunications, data processing and the watch business. Some three-quarters of sales arise outside France, and more than half now stems from non-defence operations. One of the fastest rising shares on the Paris bourse in recent years.

### olivetti

OLIVETTI: Sales in 1979 were L1,852bn. Big electronics and office equipment group which has recently shown recovery from several poor years; 23.3 per cent of its stock is owned by the

French group, Saint Gobain-Pont-a-Mousson.

One of the world's major vendors of small computer systems, its office strategy is unclear, although it has begun to market large Japanese computers and has bought the U.S. automatic bank teller company, Docutel.



SAINT-GOBAIN-PONT-A-MOISSON

SAINT-GOBAIN-PONT-A-MOISSON: 1979 revenues: FFrs 35.5bn. Big French glass and piping group which has recently diversified into electronic technology. Owns 51 per cent of Cie des Machines Bull, which controls CIT-Honeywell Bull, France's biggest computer manufacturer. Honeywell of the U.S. owns 47 per cent. Saint-Gobain also acquires 23.3 per cent of Olivetti of Italy earlier this year and is majority partner with National Semiconductor of U.S. in French chip-making project.



PHILIPS: 1979 worldwide revenues: F133.2bn. Farflung Dutch-based group with operations in more than 60 countries. Products include telecommunications equipment, industrial supplies, business machines, consumer electronics, domestic appliances,

lighting, batteries and pharmaceuticals. Europe's biggest semiconductor manufacturer. Owns Mullard and Pye in Britain. Recently set up Philips Business Systems in UK to market a wide range of office products including mini-computers, word processors, dictating equipment, terminals and private exchanges. In the U.S. its affiliate, North American Philips, owned by Philips shareholders, has been expanding its consumer electronics operations recently.



### CIT Honeywell Bull

CIT HONEYWELL BULL: Sales for 1979 FFrs 5bn. Largest computer manufacturer in France, supported until recently by heavy government aid. Parentage includes U.S. computer group, Honeywell, as well as major French interests, including Saint-Gobain-Pont-a-Mousson. Component shortages left 1980, first half, in red, but recent predictions from CIT suggest that a profit can be returned for 1980 as a whole.



CIT ALCATEL: 1979 revenues: FFrs 3.8bn. Part of French Compagnie Générale d'Elec-

tricit. Impressive record in telecommunications equipment. Claims to have installed more than 60 per cent of world's digital exchange lines. Now moving aggressively into office products under Alcatel brand name. Owns Friden, second largest U.S. mailing equipment company and acquired earlier this year business machines activities of Roneo of Britain.

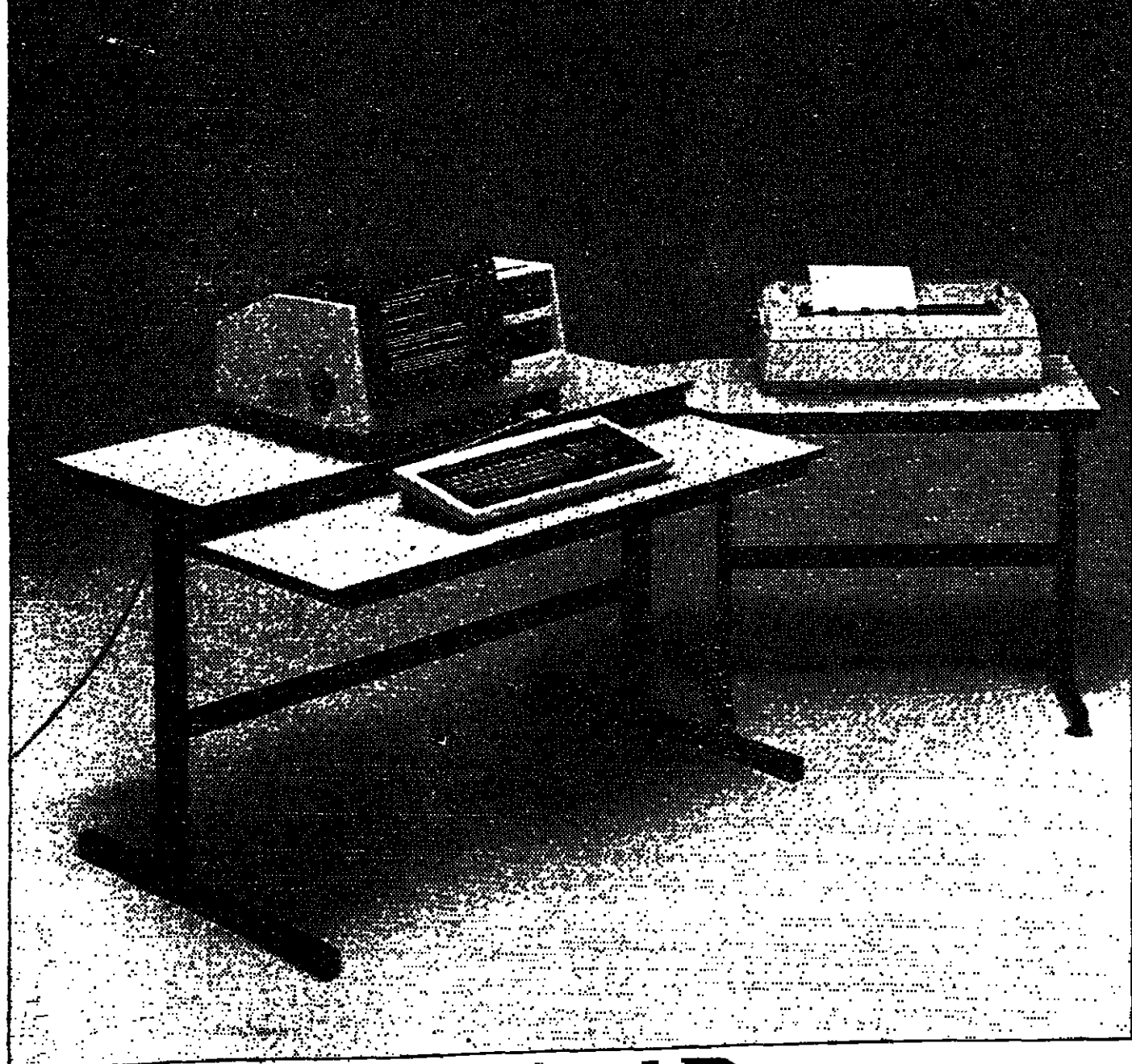
### TRIUMPH-ADLER

TRIUMPH-ADLER: Sales for 1979, DM 1.2bn; net profits at parent company level, DM 10m. Broadly based office equipment group, owned by the Volkswagen motor group. Recent years have seen diversification away from typewriters to an increasingly ambitious range of electronics and data processing products. Has the backing of VW's powerful financial muscle.

### NIXDORF COMPUTER

NIXDORF: Sales for 1979, DM 1.25bn; net income DM 85m. Germany's leading producer of small business computers, with a 30 per cent share of the local market. Founded, and still controlled, by the Nixdorf family, but could become a public company some time in 1982. Deutsche Bank took a 25 per cent shareholding, and pumped in DM 200m in cash, in 1978.

# Add one.



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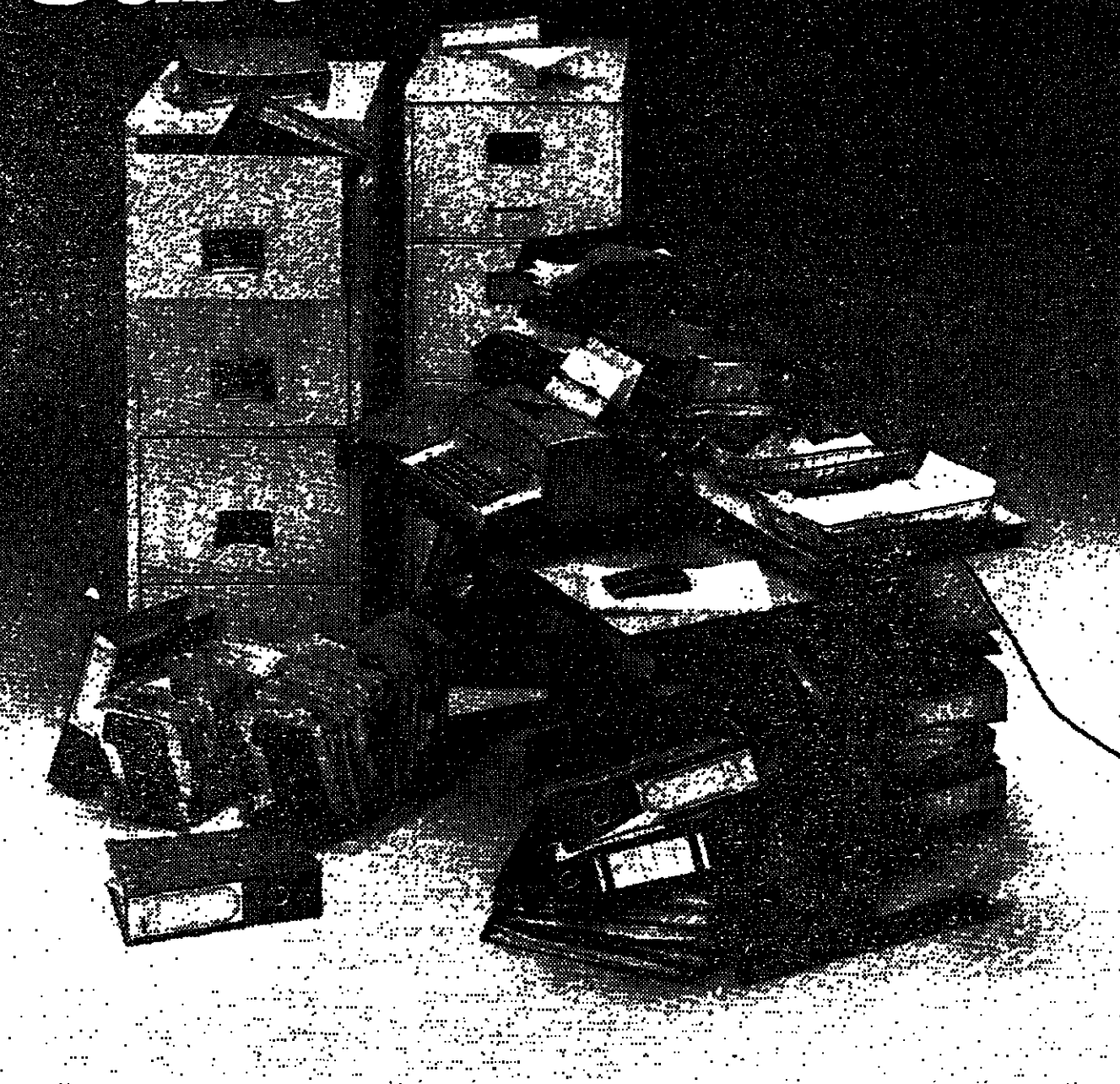
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## OFFICE EQUIPMENT VI

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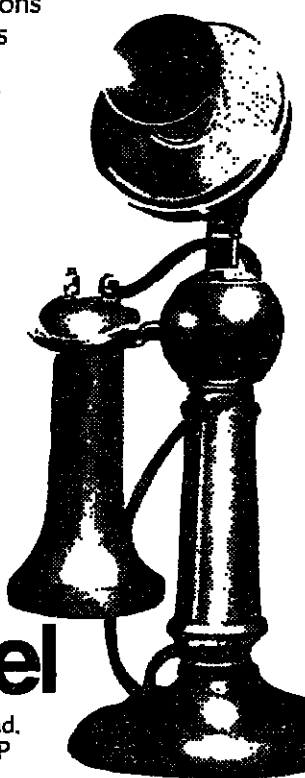
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### SMALLER COMPUTERS

GUY DE JONQUIERES

ABOUT two years ago, a team of International Business Machine engineers set themselves a remarkable challenge. They undertook to reproduce the central processor - the "brain" - of one of the company's most popular big computers, the System 370, on a single microchip.

The processor consists of more than 45,000 components, a cluster of printed circuit boards and several miles of wiring. It is bulky enough to be housed in a cabinet of its own. Yet the IBM team managed to transfer all its complex circuitry onto a sliver of silicon measuring only 7 mm square, roughly one tenth the size of a British postage stamp. IBM does not propose, for the moment at least, to put System 370 processors on silicon, commercially. But its success in building in the laboratory what may be the most densely packed integrated circuit in the world, illustrates vividly how far the technique of miniaturising electronics has come.

#### Performance

Advances in semiconductor technology and the accompanying fall in the price of components have had their most visible impact so far in the market for smaller computers. Indeed, the products competing in that fast-growing market are developing so quickly that it is becoming increasingly hard to say, with any precision, what a small computer is or to describe the limits to its performance.

Only a decade or so ago, the definition was fairly straightforward. Small computers were invariably "minicomputers," less powerful and cheaper versions of big "mainframe" computers. Unlike mainframes, which were intended to be general-purpose machines capable of a wide variety of functions, early minis were designed to specialise in particular tasks, notably scientific and technical calculations and industrial process control.

But today, minis are to be found in a wide range of applications. Moreover, machines emerging from traditional American minicomputer companies, such as Digital, Data General and Hewlett-Packard, now rival in performance medium-sized computers made by mainframe manufacturers

such as IBM, Burroughs, or Sperry Univac. Digital's top-of-the-line VAX is as powerful as IBM's new 4300 series small mainframe.

The mini-makers' upwards thrust is partly in reaction to the growing challenge which their cheaper products are facing from micro-computers, whose heart is a collection of inexpensive standard "chips" mounted on a printed circuit board. The micros have largely taken over the role which mini-computers played a few years ago of bringing data-processing to a much wider circle of users.

Companies such as Commodore, Apple and Tandy in the U.S., as well as a growing band of Japanese manufacturers like Matsushita and Sharp, have found a ready market for desktop machines which offer as much performance as a mini-computer costing ten times as much only a decade ago. Micro-computers also are used as the basis for many smaller word-processors sold today.

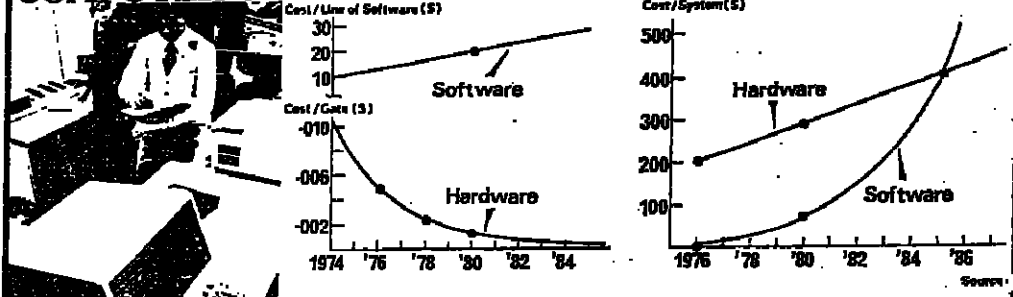
In their most basic form, micro-computers, equipped with a display screen and keyboard, can be bought for as little as £500. But an owner who wants his machine to be more than just a plaything will probably want to invest another £2,000 or so in a high quality printer, a disc storage unit for back-up memory and a library of pre-written programmes (software).

A system like this should be able to carry out a number of common business functions such as payrolls, accounting or stock control, as well as some technical and scientific calculations. Increasingly, micro-computers which started out as status symbols or toys for the personal use of rich enthusiasts are being installed for business and professional applications.

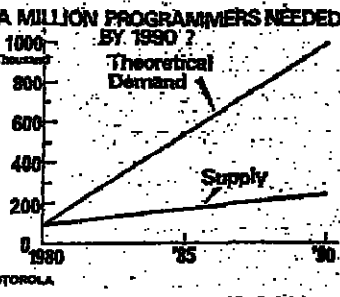
International Data Corporation of Waltham, Massachusetts, in the U.S., believes that the market for micro-computers is only now beginning to hit its stride. It forecasts that the number of machines in use worldwide will soar to more than 5m by 1984, ten times the number installed at the end of last year. It estimates that about 60 per cent of the total will be in use in the U.S.

But IDC also foresees a shake-out taking place among suppliers of micro-computers within the next three years. It believes that in the U.S., at least, the long-term survivors will be those companies with a broad product range which can offer a line of compatible computers stretching from desk top micros

### COMPUTER COST COMPARISONS: Software v Hardware



### Programming



The LogAbax 2500 small business computer (above) which, it is claimed, brings a new dimension to office management. For less than £50 per week, the system can handle all the invoicing, sales analysis, ledgers, stock reporting, payroll and VAT functions of a normal business. The makers add that the LX2500 "is so simple to use that no special experience is necessary."

Right: the new ITT 3451 intelligent terminal from ITT Business Systems is IBM 3740-compatible and can be programmed in business BASIC. In the picture, an operator is inserting a diskette, prior to data-entry. The high-performance diskette drive used by the ITT 3451 speeds up the search, copy and insert functions, reducing operator waiting time, and allowing greater data throughput.

up to powerful systems costing £250,000 or more.

IDC points out that the continuing decline in the cost of electronic technology is failing to offset suppliers' rising overheads. Indeed, the fall in prices of micro-computers accentuates the problem because a supplier's marketing costs absorb an increasingly large proportion of the revenues from each unit sold. Therefore, those suppliers who can offer micros as part of a broader range of office products and who can therefore spread their overheads are likely to be the best-placed in the long run.

The third key to survival is software. Though the number of programmes that can be purchased off the shelf for micro-computers is constantly expanding, they are of variable quality. Moreover, most programmes are for fairly general tasks. The user who wants to adapt his microcomputer to a specialised application must often either write his own programme (a laborious affair, requiring a good deal of skill), or employ an outside programmer (which can be expensive).

Motorola and Intel, have all announced that they are working on plans to build in to their chips during manufacture the nucleus of basic operating software required to make them function.

This "packaged software" approach would make it much easier to write the applications programmes needed for specific tasks. It would also bring a step closer the possibility of creating a computer as powerful as a small mainframe by mounting a selection of micro-processor and memory chips on a printed circuit board.

The manufacturers say that if they succeed, they will go a long way to solving the shortage of skilled programmers that is forecast for the years ahead. They also are likely to bring about the most profound upheaval yet in the rapidly changing pattern of the computer market and of the industry which supplies it.

### MARKET FORECAST FOR INFORMATION PROCESSING SERVICES

Office automation system	1978 market \$m	1979 market estimate \$m	1984 market potential \$m	1979-1984 average annual growth rate %
Electronic mail*	20	26	105	32
Information retrieval	2	4	45	63
Data base services	1	2	28	68
Com. services	2	3	50	72
Other**	Negligible	2	54	94
Total	25	37	282	50

\*The above figures include only those applications which apply to the office functions. Traditional EDP applications which apply to operations, finance, etc., are excluded.

\*\*Does not include Western Union's "Mailgram" (estimated at \$31m in 1978), and facsimile.

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Source: Input.

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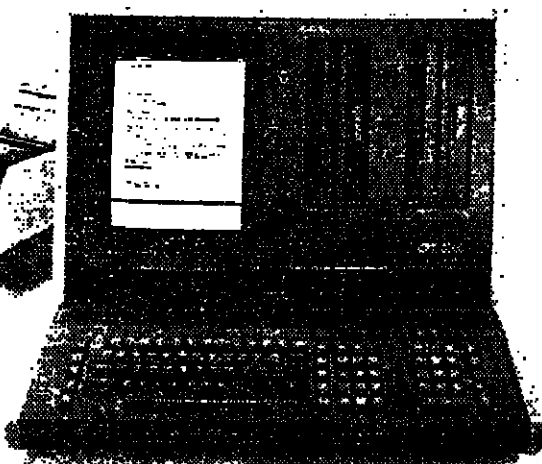
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## OFFICE EQUIPMENT VII

## Some of the major participants in the business equipment market in N. America

**IBM**

**INTERNATIONAL BUSINESS MACHINES:** 1979 worldwide revenues: \$22.8bn. World's largest computer manufacturer, accounting for more than half all larger computers installed by value. Offers comprehensive office product range spanning typewriters, word processors, copiers, FAXs, dictating machines, printers and terminals. Despite little past experience in telecommunications, IBM is likely to be a major force on U.S. business communications market in future. Major partner in project to provide sophisticated business communications by satellite.

IBM's profits last year suffered from switch by many customers to computer leasing from outright purchase. This, plus heavy investment in new products designed to fend off increasingly voracious U.S. and Japanese competitors, has caused it to borrow heavily.

**EXXON**

**EXXON ENTERPRISES:** Set up by the U.S. oil giant, Exxon (1979 revenues: \$84.8bn) to develop new operations in office products. Has invested \$200m mainly in small companies making typewriters, word processors, facsimile equipment, data transmission and networking devices, talking computers and semiconductors. Many products are innovative, though it is not yet clear how Exxon will knit the various activities together into a cohesive strategy—but few doubt that it has the necessary financial resources.

**nt northern telecom**

**NORTHERN TELECOM:** Sales for 1979, C\$1.9bn; net income, C\$97.1m. The largest telecommunications group in Canada and number two in North America, after A.T. and T.

Northern Telecom is owned 55 per cent by Bell Canada.

Entered office electronics business as recently as 1978 through a number of computer acquisitions.

**WANG**

**WANG LABORATORIES:** Sales for year ended June, 1980, \$543m; net income \$52m. Leading producer of small computers and word processing systems, founded in 1951. Lost money in Europe last year despite a contribution to sales now approaching 25 per cent. Otherwise, successful company in a market dominated by major groups.

**XEROX**

**XEROX:** 1979 revenues: \$7bn; American copier giant, major shareholder in Rank Xerox. Its dominance of the world copier market has been increasingly challenged by Japanese companies, though it is fighting back vigorously with new products and increased marketing effort. Xerox has diversified its activities in recent years to prepare for broad attack on the office systems market. Acquisitions include Western Union International and computer peripherals manufacturer, in the U.S. Involved with Intel and Digital Equipment in developing Ethernet office communications network and collaborating with Thomson of France on video discs for data storage.

**Burroughs**

**BURROUGHS:** Sales for 1979, \$2.8bn; net income, \$300m. A leading U.S. producer of data processing equipment and computer systems, substantial interests in business forms. Computer systems account for 62 per cent of Burroughs' sales with two-thirds of this in large and medium-sized products. Sales outside the U.S. contribute 45 per cent of sales and 33 per cent of profits.

**D****DATAPOINT**

**DATAPOINT:** Sales in 1979 were U.S.\$318m. One of the

originators of the idea of distributed processing (which it calls dispersed processing). Datapoint has a sound reputation for reliable minicomputers. The company is basing its integrated office on its attached resource computer (ARC). Distributed in the UK by Ventek of Wembley.

**ITT**

**INTERNATIONAL TELEPHONE AND TELEGRAPH:** 1979 worldwide revenues: \$22bn. Diversified American multinational company with activities in telecommunications, electronics, engineering, consumer products and services, natural resources and insurance and finance. Management responsibility for different divisions of the group, which does business in more than 80 countries, has been decentralised in recent years with increasing emphasis on non-consumer products.

As a major supplier of telephone switching equipment it is developing an advanced digital exchange, System 12, while its UK subsidiary, Standard Telephone and Cables, is involved in Post Office rival System X programme. Recently warned

that it might sell French telecom subsidiary if France did not order System 12, which it also hopes to sell to AT and T in U.S. Business equipment range includes FAXs, printers, telex machines and computer peripherals.



**AMERICAN TELEPHONE AND TELEGRAPH:** Sales for 1979 \$45.4bn; net income \$5.7bn. Largest telephone group in the world. Parent company for the Bell System which operates through 21 subsidiaries and controls nearly four out of every five telephones in the U.S. Faces sterner competition from now on following recent move to deregulate the U.S. telephone industry.

**Honeywell**

**HONEYWELL:** Sales for 1979, \$4.2bn; net income \$240m. Aerospace and missile group with industrial and environmental protection interests. A wide range of information systems account for roughly a third of both sales and earnings following rapid expansion in this field in recent years.



IBM's Office System 6 is a range of machines combining a visual display, ink jet printing, magnetic cards and diskettes as input and output media, with sophisticated communications capabilities. The IBM 6/450 (shown here) has all the system components; it can be used to keyboard, process and print text or records

## Special capabilities still fill a need

## MAINFRAMES

ALAN CANE

**HISTORY** in the data processing business, repeats itself. The same questions come up again and again. Over the past few years, controversy has centred on the role of the mainframe computer in data processing. Has it a future? Is it simply a dinosaur to be eliminated in the evolution of computing by the fleet, cheap little minicomputers? Or is it the mainstay of the operation, around which all the rest of the computer business turns.

Now the same sequence of questions is being asked about the mainframe in the evolution of the electronic office.

The idea of the "electronic office," the "office of the future," the "paperless office," call it what you will (the very latest jargon seems to be the "integrated, electronic office," or IEO), was possible from the very early days of computing—but the price was prohibitive.

As the cost of computing fell, in real terms, with the introduction of the microprocessor and its associated microcircuitry (controllers, memory and switches), so the theory became reality.

And that, in turn, meant that it was the mini and micro computer manufacturers who made the running in the development of office automation.

## Reality

Thus, it was companies such as Wang, Four Phase, Datapoint, Xerox and Intel which were crying their wares in the market place at the very start—and, indeed, it is these companies which are still making the running now.

Where then is the mainframe in all this activity? First of it is worth, in these perilous times when semiconductor manufacturers delight in managing to implement an entire very large IBM system on a single quarter inch square silicon chip to define a mainframe. Worthwhile, but probably impossible. The Computer User's Year Book has given up differentiating between mainframes and minis and now simply lists central processors.

The best definition probably turns on the amount of computing power available.

At present, office products tend to be a little primitive. There are word processors, message switching systems and data storage systems but none of these quite matches up to what is required of the truly electronic office. As Dr. Douglas Eysenck, director general of the Computing Services Association put it: "There is justifiable disappointment among customers with the products available—after all, it is very unlikely that any one piece of equipment will solve all a customer's problems."

But if the mini and micro computer manufacturers are making the running, what response is there from the traditional mainframe manufacturers? Mr. Michael Edmiston, UK marketing manager for International Computers, sees a need to divide facilities for the office into four levels. Those used at corporate level, those used in administrative units, those used at the level of the office and those used at home.

For home use, there seems no better alternative than viewdata, at present.

ICL is already associated with the Thorn electrical group in the development of Thornel, a private viewdata system which runs on ICL's bigger computers. According to Mr. Edmiston, the Thornel system is already under test at six pilot sites.

In the office he sees the use of ICL's word processor, the 7700, which operates as a stand-alone system—that is it can be operated separately from a mainframe computer—but which also involves the concept of shared logic. That means that several separate word processing stations can operate from the same central processing unit.

Mr. Edmiston foresees a situation where each administrative unit would have access to an ICL Me 29 (ICL's new and popular small mainframe) to act as a node for office communications, word and text processing and data processing.

He points out that some firms are already installing Me 29s, not to act as data processors, but to handle files and other office administration functions. What is probably not clear

is the actual amount of processing power necessary to handle two of the most important facets of the "electronic office," first, the office database and second, the multifunction work station.

There are, again, fairly advanced concepts in a world where very few businesses have anything like an effective corporate database and where "work stations" tend to word processors with perhaps the facility to receive viewdata information.

## Concepts

According to a study carried out by Professor George Coulouris of Queen Mary College, London University (and which incidentally led to the formation of Nexos, the National Enterprise Board office equipment subsidiary), the work station of the future will have very specific attributes.

It will be, he argued, "an electronic replacement for the office desk, the typewriter and the filing cabinet. Because the work station incorporates information processing power in the form of a personal computer system, it will be able to perform automatically many of the tasks that involve manual effort at present. In principle, these include almost any task involving the storage, processing, manipulation or transformation of information."

Professor Coulouris' vision involves some concepts that are far removed from anything seen in so-called office automation systems at present.

He sees, for example, the whole of the flat surface of the present executive's desk being replaced by a large television screen on which are projected images of all the papers which currently inhabit that space. Diaries, memoranda, working papers, perhaps stored one on top of another.

In Professor Coulouris' electronic office it would be possible for the executive to write on the papers on his screen, using, perhaps, a light pen, shuffle them around, file them for future use, or send them to other colleagues in the organisation.

The archival store is another significant part of his vision: "Since the work station will hold only current information,

the archive store takes on most of the role currently performed by filing cabinet storage. It also provides a permanent record for legal and audit purposes."

It must ultimately have the capacity to hold all the information stored at present in conventional files. Its capacity must, therefore, be very large—say 1,000m pages or 4,000,000m characters. No suitable technology exists at present.

It requires a very powerful computer to handle this kind of processing task. Mr. Edmiston points out that the problem of handling images on the screen is 100 times more complex than simply sending characters down a communications line to a visual display terminal.

## Facets

It is not surprising that Nexos selected the Delta computer, made by the Delphi Corporation, as the heart of its office architecture. The Delta is one of the most powerful communications processors yet built.

It is seen by Nexos, a National Enterprise Board company, set up to cater for the electronic office as the cornerstone of its philosophy. It is exceedingly powerful—it can handle up to 240 million instructions a second, through a network of between eight and 32 processors. The amount of information it can control is in excess of 80m bits (binary digits or individual electronic events), a second.

The Delta, is, of course, not a conventional mainframe. It is a very large and expensive electronic switchboard. Mr. Muir Moffat, managing director of Nexos, has pointed out to those who query the size and power of the Delta for a conventional office, that nobody would think twice about spending that kind of money on a new conventional telephone switchboard. The Delta will be able to recognise voice commands, integrate text and voice data banks and carry out message-switching, among a host of other "intelligent" functions.

Just as in data processing, the mainframe may be a dinosaur but it will not die out. The need for its special capabilities is simply too great.

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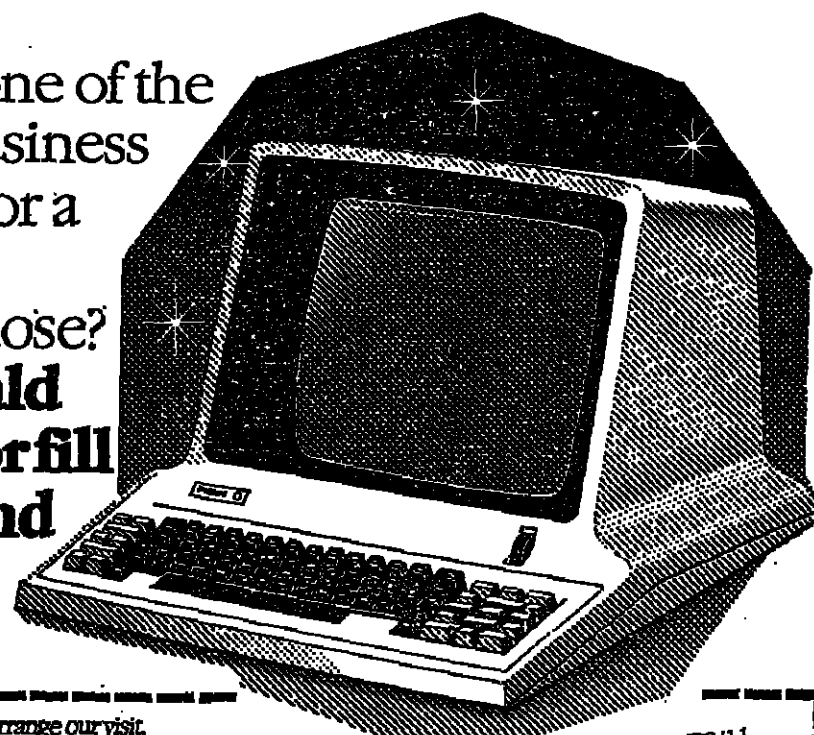
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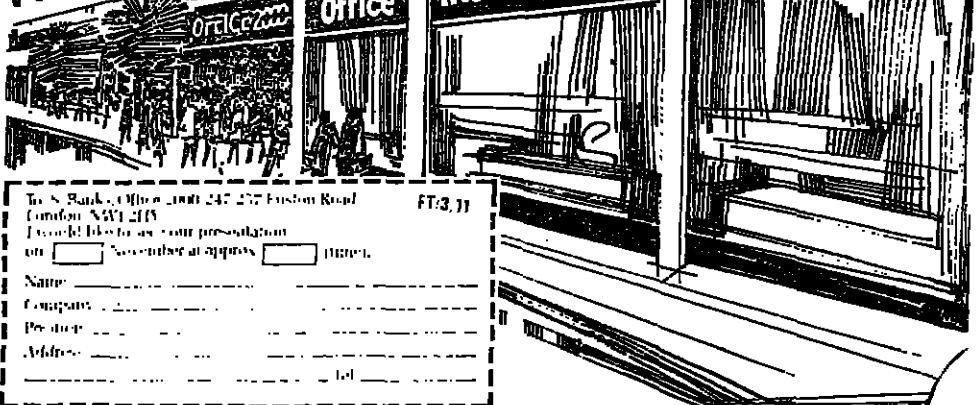
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## All set for a boom in the '80s

### DATA COMMUNICATIONS

GUY DE JONQUIERES

DATA COMMUNICATIONS, the technique of transmitting computerised information from one point to another, is set to boom during the 1980s. The expected rapid growth will mean an expansion of the information and communications services available to business and will bring a step closer the realisation of the electronic office.

One way to measure the growth of data communications is by the number of computer terminals installed. According to the latest Eurodata survey commissioned by European telecommunications administrations (PTTs), the number of terminals connected to public networks in Europe will increase almost sixfold between now and 1987 to 4m units from 625,000 units today.

In the U.S., there are already four times as many terminals in use as in Europe, reflecting both the Americans' lead in computerisation and their relatively cheap telecommunications tariffs. But in spite of starting from a considerably higher base, the U.S. is expected still to see a 20 per cent annual growth in the number of installed terminals over the next decade.

#### Expansion

Behind this projected expansion lies the confluence of several powerful forces. Steady decreases in the cost of micro-electronics components have made it possible to manufacture terminals very cheaply. In France, the PTT believes that it will be possible to make terminals designed to search for telephone numbers stored in a central computerised directory for less than £60 each. It plans to distribute one free to every French telephone subscriber in place of printed directories.

The progressive fusion of computer and communications technology, which has led to the development of digital telephone switching and transmission, has simplified the technical task of carrying data and voice on the same networks. And recently, changes in regulatory policies have started to erode the political obstacles standing in the way of the commercial exploitation of the latest developments in technology.

The most dramatic move taken in this direction so far has been the decision by the U.S. Federal Communications Commission to open up to all-comers the market for so-called

"value added" services, which has hitherto been strictly regulated. Such services, which combine the processing and transmission of data, have until now been offered only on a fairly limited scale in the U.S. by computer bureaux like Tymnet and Graphnet.

The FCC's decision is expected to stimulate the rapid growth of many new types of service, such as electronic funds transfer and billing, electronic mail and integrated voice and data communications networks. Though these will initially be aimed mainly at business customers, they can be expected to spread swiftly to household and residential users.

The potential scale of this new market may be judged by the number of American corporations preparing to enter it and the size of the resources which they plan to commit. American Telephone and Telegraph, which has a virtual monopoly of the U.S. telephone system but has been prohibited from offering "value added" services until now, is setting up a new company to exploit the business. Nicknamed "Baby Bell," it has been endowed with a capitalisation of \$10bn.

International Business Machines, the world's biggest computer manufacturer, has set its sights on the market too. As well as offering a comprehensive range of business equipment and terminals, it is a partner in Satellite Business Systems, which plans to provide highly sophisticated business communications services. Xerox is also limbering up for the fray and is working on a rival communications project called Xnet.

In Europe, things are moving considerably more slowly. Though the British Government is examining the possibility of opening the national telecommunications network to private suppliers of "value added services," PTTs in most other countries appear determined to keep a firm grip on their monopolies and resist any intrusion by the private sector.

The recent case of I.P. Sharp, a Toronto-based company which operates an extensive international computer bureau network, is symptomatic of the dog-in-the-manger attitude of which the PTTs are often accused. Sharp undertakes to process at central computers data fed in by its customers at remote terminals. In addition, it has also offered its 700 European customers a facility to send messages to each other electronically across its network. But under strong pressure from the PTTs, the Canadian company has been forced to end this extra service from the beginning of next year.

At present, the PTTs offer no comparable Europe-wide electronic mail services themselves, though several are planning to introduce national networks over the next few years. They apparently feared that Sharp was depriving them of revenue by carrying on its leased circuits messages which would otherwise have been sent on public telecommunications networks via telex or telephone.

The PTTs' determination to

exclude private competition which threatens their monopolies is not too surprising in view of the sums of money involved. Data communications is still only 5 per cent of their business but earns them about \$2bn a year. They expect this sum to rise to about \$8bn annually by 1987. Moreover, most of the traffic will be carried on their already profitable long-distance lines.

At present, most data communications traffic is transmitted either on private circuits leased permanently from the PTTs by private users or, where a customer's needs are less extensive, on the public switched telephone network. But increasingly, European PTTs are introducing new networks to handle data communications using a technique called packet switching.

#### Packet system

Data are divided into "packets," each containing typically 128 binary units (bits), including the coded address of the final destination. A computerised control system then works out the fastest route and dispatches the packets via a series of nodes, or connecting points in the network. Each packet containing part of a given message may travel a different route, but the system ensures that they are assembled in the correct order at their destination.

Provided the tariffs are set at a reasonable level, packet switching offers advantages to both the PTTs and their customers. Because packets are stored momentarily at each node before being forwarded on the next leg of their journey, an open line is not required all the way between sender and recipient. This means that more traffic can be carried and that users can be charged on the basis of the volume of data sent, not of the distance travelled.

Packet-switched networks can carry voice as well as data, and transmission speeds can be varied according to the type of service required. Transpac, the French PTT network which has been operating since 1978, offers speeds of between 50 bits and 48,000 bits per second.

The EEC is also operating its own packet-switched network, Euronet-Diane, which provides access to scientific and technical data bases throughout the Community. The European Commission had hoped that it would provide the basis for a single Europe-wide network, but national PTTs (whose activities fall outside the jurisdiction of the Rome Treaty) have pressed ahead with their own individual schemes regardless.

As a result, each of the national networks differs technically from the others. Some progress has been made in negotiating common international standards designed to allow data to flow between these will be in practice remains to be seen. Perhaps the most exciting new development in business communications now in prospect is the advent of services using satellites. These will permit voice and data communications, together with television transmission, to be relayed directly between distant points. One obvious new application is teleconferencing, which will allow businessmen in different cities to see as well as talk to each other.

Texas Instruments, the big American semiconductor manufacturer, has for some time been using a satellite system to link its different offices and plants scattered around the world. In the U.S., the commercial communications services planned by IBM and Xerox will both involve satellite links. In Europe, France plans to launch a telecommunications satellite in 1983, while British Telecom

is studying a similar proposal. As well as being able to carry a wide variety of services, satellites are also an easily accessible medium. Communications can be transmitted and received between users via dish aerials mounted on rooftops without recourse to the telephone network. Though these aerials are likely to be quite expensive at first, volume production should bring about a significant drop in cost over time.

For PTTs, this poses an obvious problem, since it is considerably harder to enforce a monopoly over communications that are transmitted through the airwaves than over those that are carried on telephone lines. Moreover, satellites transmit over wide areas, so that their coverage cannot easily be restricted within national boundaries.

#### Intentions

It is not clear how far plans by PTT to launch telecommunications satellites are intended as a pre-emptive move in anticipation of private sector competition, or whether they would have been put into effect anyway. According to Dr. Louis Pouzin of the French Institut de Recherche d'Informatique et d'Automatique: "New communication services introduced by PTTs are often simple countermeasures, which were thought necessary to protect the monopoly."

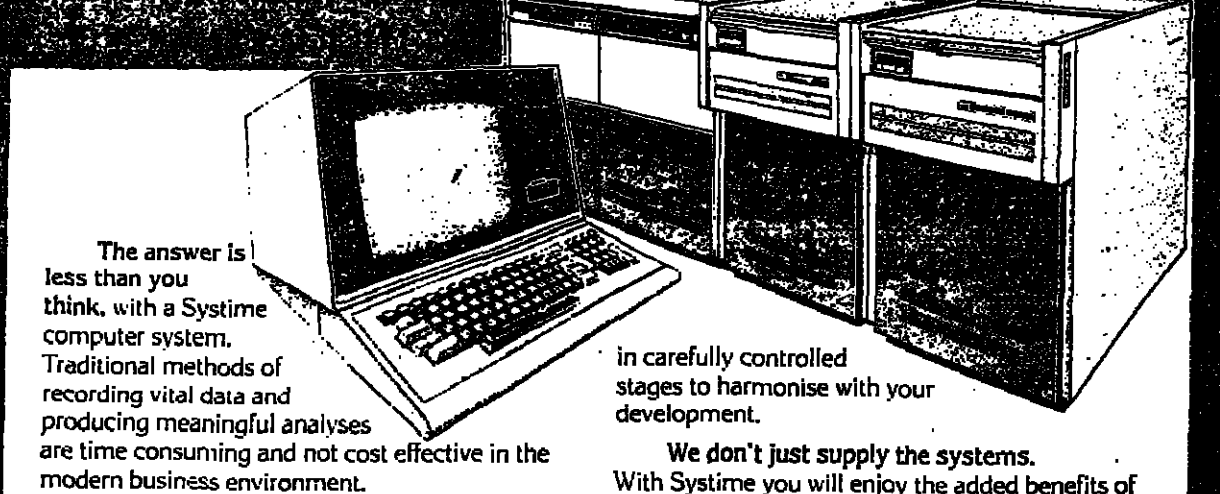
But it does seem likely that the PTTs' monopolies face a tougher test than at any time in the past. The next few years will tell whether the regulating authorities will succeed in keeping control over the provision of new types of communication — as they thereby perhaps slow down their general introduction — or whether the sheer speed of technological development will vitiate the attempts by the PTTs to impose national restrictions on its application.



Up to 3,500 messages a day are handled by the ITT 6100 ADX message-switching system, installed by the Esso Petroleum Company at its London headquarters to speed communication with Esso facilities in the UK and abroad. Messages can be rapidly edited or corrected on the screen and no dialling is required — the system takes over this greatest-of-all telex operator chores

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## Wider applications in the use of computers

### INTERNAL NETWORKS

JASON CRISP

FOR YEARS the much heralded electronic office of the future has remained doggedly almost exactly a decade away. But a significant change in the use of computers may indicate that, in large companies at least, the vision of every manager having his or her own communicating terminal may actually be beginning to happen, albeit somewhat slowly.

The change is that the computer is emerging from the closet of the data processing room, into the main stream of the office. According to the manufacturers, the professional staff in organisations are increasingly using computers themselves and they note that once that happens managers too become much more interested in having access to information which is or could be available.

#### Efficiency

Most companies generate vast quantities of information in many different guises which swims around the organisation by a variety of means. A number of companies are awakening to the efficiencies and productivity which can be gained from both the managerial and professional staff if the information systems can be rationalised and co-ordinated.

To some degree or another any organisation will have one or more forms of electronic communications network. Data processing has resulted in a number of local communications

networks. Word processing is very slowly beginning to establish a new series of networks, and of course, the most pervasive network is inevitably the telephone and telex system.

There is much activity in both computer and telecommunications industries to try and bring together many of these disparate and sometimes haphazard networks into fewer and more efficient ones. It is likely to be quite some time before the average manager sees the benefit.

Why not put all companies word processors, facsimile machines, computer terminals, telex and so on, on to one network as it would be more efficient and much cheaper? And, so the thinking goes, why not give each manager a terminal on which memos and letters can be sent and stored in electronic form as it would increase the speed of communication and be much more efficient?

A number of possible solutions are appearing from two sources: the computer and telecommunications industries.

A wide range of local networks have been developed by the computer industry which work in a variety of ways. Although these are fine for a computer system they are limited because they generally only work with the proprietary manufacturer's equipment. A significant trend emerging is for networks to be designed to link any manufacturer's equipment.

The solutions to designing an internal electronic communications network come, broadly speaking, from two very different directions. One is the ring approach, of which the best known approach is Ethernet, which has been developed by Xerox, Digital Equipment, and Intel the major semi-conductor company.

Ethernet is a ring of co-axial cable without any switching device at all. All the information from and to all the terminals, printers, word processors and so on within the office flows past each machine but each one is capable of recognising the electronic parcel of information which has been addressed to it and can pluck it off the wire.

#### Benefits

The advantages of a system like Ethernet is that it is reasonably cheap and simple — it is largely a question of running the co-axial cable round a building — and it is fast, but it is not designed to carry voice.

There are nearly 50 different companies offering local data networks, almost all of which are more hierarchical than Ethernet's open ring. There is, however, a move for computer manufacturers to make networks much more flexible. IBM is modifying its centralised and hierarchical Systems Network Architecture, for example.

The leading British answer which has been attracting considerable interest is the "Cambridge Ring" developed by the Computer Laboratory at Cambridge University and which is to be sold by Logica, the computer software company in which the National Enterprise Board has a stake.

The major rival solution comes from the telecommunications companies which with digital private exchanges which can route data as well as telephone calls. Information from terminal comes in to the exchange and is switched to the computer or another terminal. In the UK, for instance, Plessey and Telephone Rentals market a digital exchange made by Rolm, as does IBM (the first to get Post Office approval).

There are two problems in using conventional digital PABXs: one is that transmission

speeds are much slower than on a computer network, and the second is that they may not be powerful enough to handle a very large number of pieces of electronics equipment communicating with each other.

One very powerful communications system which can combine voice and data transmission is being developed by Delphi, a subsidiary of Exxon. The European manufacturing and marketing rights of Delphi's Delta are held by Nexos, the office equipment subsidiary of the National Enterprise Board. Delta's power is extraordinary. It can have up to 25 processors, each one equivalent to a large IBM computer and capable of 75m instructions every second. As Mr. Chris Ellis, director of strategy at Nexos remarks in the idiom of the Rolls-Royce spokesman: "The power is adequate."

As a trial, the first Delta has been running for three years as a telephone answering service in Los Angeles, connected to nine large telephone exchanges. When a subscriber does not answer, the call is routed to one of the Delta operators who is told what company name to give, on a video screen and is then instructed by the computer how to handle the call in detail. Even though the operator may never have heard of the company she is answering on behalf of, by working with Delta, she can be more effective than the secretary of the person being called, says Mr. Ellis.

Delta 2, which Nexos hopes may be available in a year's time in this country, will first be marketed as just an answering service within large companies or groups of smaller ones. However, Delta can be stepped up into a fully integrated electronics communications system which would link all telephones, computers, word processors, facsimile machines, data storage and so on.



## OFFICE EQUIPMENT IX



The new Xerox 880, a flexible and sophisticated information processing system. The 880 system includes a number of aids to productivity in basic text processing as well as a range of optional software packages. Xerox also offer a word processing software package with the system.



Wang's powerful word processing System 30 uses a 10 megabyte hard disk for speedy performance and storage capacity for up to 4,000 pages of text. The system can accommodate up to 14 peripheral devices, such as workstations, printers, telecommunications or interfaces for OCR and photocomposition.

## Consultants' key role in providing expert advice

## COMPUTER SERVICES

ALAN CANE

THE OFFICE is ripe for automation. It could be likened to a maritime catastrophe with, on the one hand, a ravenous shark representing the way that office costs continue to rise without hope of abatement; on the other hand there is the bleeding man in the water, representing, metaphorically, the way in which new technology has slashed the costs of the equipment necessary for automation. Yet the wonder is that the expected massacre has failed to materialise.

As Mr. George Cox, managing director of Butler Cox, a consultancy established specially to deal with the advent of the electronic office put it: "The developments that we expected are simply not happening."

Mr. Cox sees a number of reasons for this apparent failure to exploit the costs benefits available through modern technology: "There is no simple way into the electronic office. With data processing, it was comparatively simple because of the size and cost of the central

mainframe and because of the way data processing underlies all the administrative work of the company. A single, central decision had to be taken to computerise. With office automation, the decision-making process is much more diffuse. Companies are nibbling round the edges but few are biting."

Mr. Cox's view is backed up by evidence from computer users. Chase Manhattan Bank in New York is one of the most imaginative and courageous users of advanced data processing equipment. It uses a complete mixture of equipment from large IBM mainframes to carry out the bulk of its processing, to Datapoint minicomputer networks for robust data entry to Wang word processors. It was one of the first to experiment with hand-written data entry using a system developed by the UK company Quest Automation and its foreign dealing room has tried a foreign exchange package of considerable complexity developed by the UK software house Logica.

Yet it has hardly started to grapple with the problem of office automation. Its senior officials are unwilling even to suggest a tentative timescale for implementation of any office system, pointing to the difficulty of securing agreement throughout the management

hierarchy for the adoption of systems which are fundamental to everything the company does — yet on which each manager has his or her own view.

Managers in Chase Manhattan do not have on-line terminals on their desk from which they can call the latest management information or receive messages from other parts of the organisation. And it is unlikely they will have in the foreseeable future. As one senior executive said: "Who is going to make the decision in a huge organisation like this? Who is going to reconcile the needs and ideas of all our different groups?"

## Growth business

This goes some way to explaining the chief role that computer services companies can take in the development of the electronic office: that of systems consultant.

The function of computer services companies is often misunderstood, but basically they will do your computing for you if you have no computer or they will make it easier for you to do your computing on your own machine.

It is a growth business, and the fastest growing part of it is consultancy. Between 1976 and 1978 consultancy and train-

## MARKET FOR OFFICE AUTOMATION SYSTEMS

Total hardware and services

	1978 market \$m	1979 market estimate \$m	1984 market potential \$m	1979-1984 average annual growth rate %
Office automation system				
Word processors	865	1,177	6,030	39
Computer based message systems (public & private)	27	64	835	68
Facsimile	150	186	505	22
OCR services	5	15	157	60
Com. services	5	11	98	55
Total	1,052	1,453	7,625	39

Source: Input.

ing grew by around 21 per cent a year, taking inflation into account. The software business grew by 17 per cent a year over the same period and the bureaux business by only 5 per cent a year. According to Roger Graham, managing director of Data Processing and Training for the consultancy Business Intelligence Services: "The sheer rate of change in the technology these past ten years has fuelled the desire of users to have independent advice in

the making of key decisions."

"How many of us had installed interdepartmental data bases, or were talking of satellite communications, electronic mail or word processing a short three years ago?" said Mr. Graham. "It was not and is not that consultants are cleverer than their clients, but simply that they have regular and repeated experience of tasks such as equipment benchmarking, installation audits, data base and telecommunications design and so

on which are either new to an organisation, or done very occasionally in any one organisation."

Speaking at a major data processing conference, Mr. Graham went on: "There will be scope for providing national and international data network facilities to give faster, cheaper, more accurate communication between and within organisations."

"Electronic mail is a buzz word representing simply the enhancement of already extant message switching facilities. Processing companies (services companies with their own computers) will be in a special position to exploit this market, the more so if governments proceed to deregulate common carrier facilities and allow competition with the Post Office. The large corporations, banks and government will have their own networks but even they may well turn to outsiders to establish them and perhaps run them."

Mr. Graham's views are mirrored by those of Dr. Douglas Eyskens, director general of the Computer Services Association. He says: "The most important role of the services companies is to advise on the proper strategy. Too many companies simply buy computer equipment—and that is fatal. What is important

is to solve the problem by thinking in terms of the system. Is it a typing problem, for example, or something that can be solved using a system of information retrieval?"

The CSA, which represents the leading computing services companies in the UK, has a specialist group examining office automation which consists of representatives from Logica, Pactivel, CSP, Langton Information Systems, Peate Marwick Mitchell, P.E. Consultants and Arthur Andersen. Other CSA companies which specialise in the electronic office include Hoskyns, F International and Data Logic.

## Big change

A major change these days is that services companies will provide hardware as well as services. Data Logic, for example, a subsidiary of the U.S. Raytheon Cossor group, makes its own specialised microprocessor-based terminals. And Logica, a specialist in word processing, provides the Logica VTS system a word processor marketed by the National Enterprise Board office automation company Nexos.

According to Mr. Leonard Taylor, managing director of Logica: "The technology is

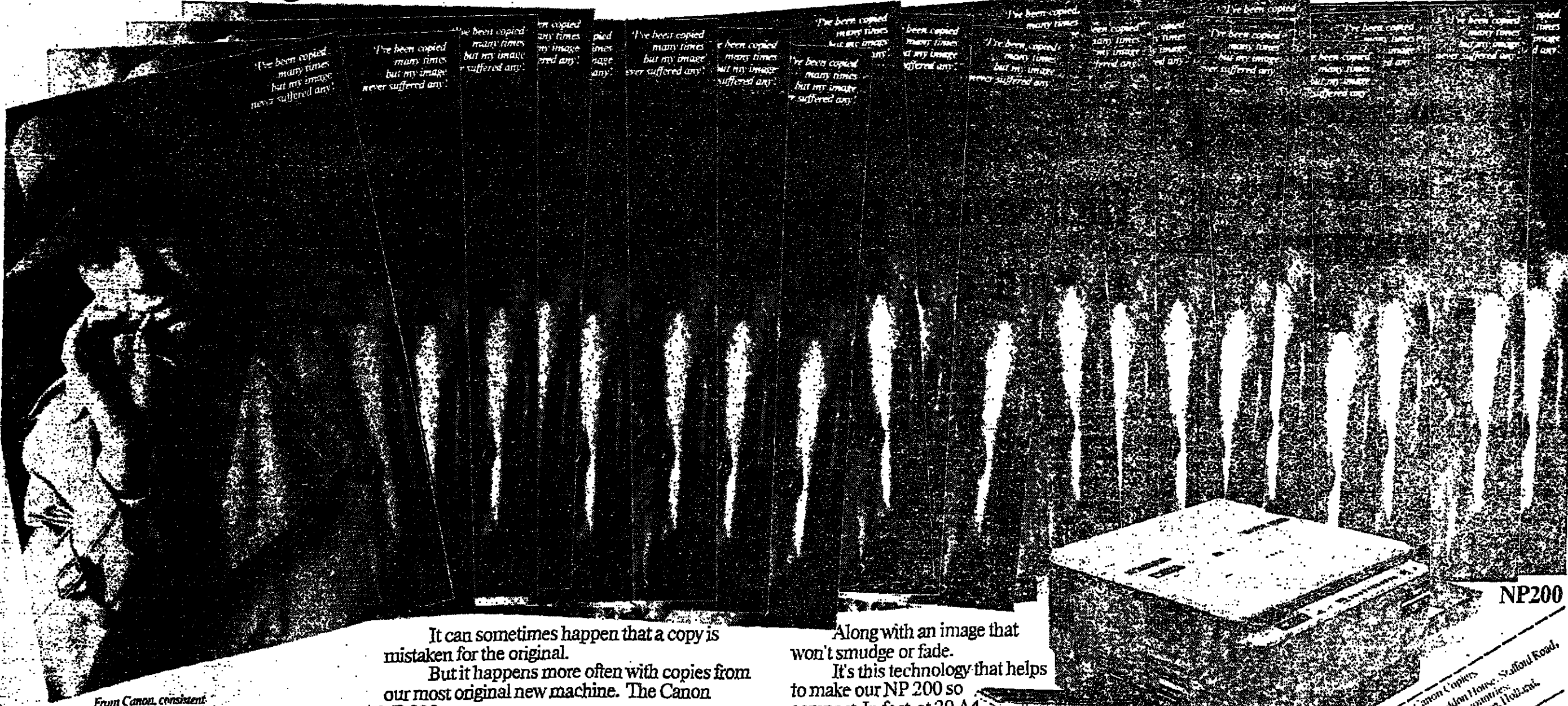
changing rapidly. There are new products and new developments each year which are slightly better and slightly cheaper than before. Customers feel a real need for a source of authoritative advice, which is not a massive multinational like IBM or Xerox, but which is aware of the potential of the technology and can help them make a considered choice."

The choice is certainly bewildering. The list of makers of such a mundane device as the humble word processor fills several columns in the Computer Users Year Book, the bible of the computer industry.

And how is the naive user to choose, for example, between the bewildering variety of in-office ring main systems on offer. Ethernet from Xerox, Intel and Digital Equipment, Zet from Zilog, ARC from Data point, the Cambridge ring, Demos from Seicon and the National Physical Laboratory, to mention only a few. As Dr. Eyskens says: "Even the work station you choose today will probably not be compatible with systems operating in a few years time."

Consultancies thrived on the users' need for advice on how best to do data processing: that experience looks likely to be repeated with the advent of the integrated electronic office.

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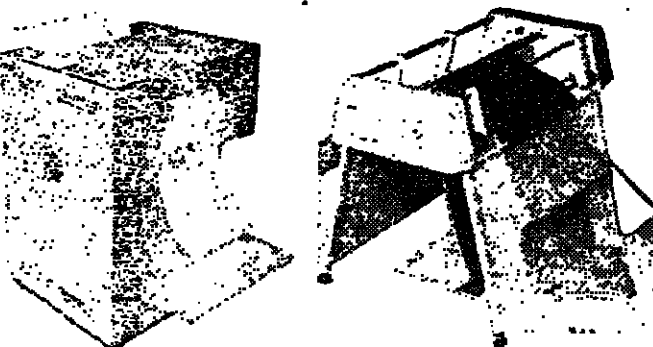
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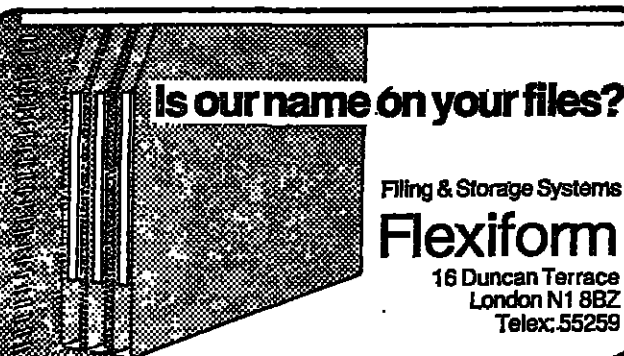
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## OFFICE EQUIPMENT X



The "mailbox" facility of private viewdata systems, such as Systems Designers' IVS-3, enables information to be transferred rapidly throughout an organisation via individual viewdata terminals, the system's central mini-computer and standard telephone lines



The IBM Displaywriter is a modular, software-based system designed to be both economical and easy to use. The basic unit consists of a 15in. display electronics module, typewriter-like keyboard, printer and diskette unit

## Packaging technology for the layman

### VIEWDATA

GUY DE JONQUIERES

IT IS A truth well-nigh universally acknowledged (or, at any rate, endlessly repeated) that the rapid fall in the price of electronic hardware has brought computer technology within reach of a vastly greater number of potential users than ever seemed possible.

But it is equally true that the great majority of people know little about computers and find them difficult to understand and impossible to operate. Thus, packaging the technology in a form which makes it readily accessible to the layman (and, ideally, enables him to forget that he is dealing with a computer at all) is an important factor governing the speed at which it gains public acceptance.

Viewdata systems, which allow subscribers to interrogate a computerised data base by means of a specially modified television, equipped with a keyboard or keypad, provide one solution to the problem. They are extremely easy to use, relatively inexpensive and provide ready access to a potentially limitless store of up-to-date information.

### Marketing

The information is stored as "pages" which can be called up on the screen, one at a time. Facilities can be built in for editing the data displayed, and for sending messages from one terminal to another, electronically. By installing an "intelligent" terminal (that is, one equipped with some processing power of its own), an operator can even perform calculations using programs and data stored in the central computer.

The best-known viewdata system at present is Prestel, the public service operated by Britain's Post Office. It offers subscribers 150,000 pages of information on subjects as diverse as financial markets, travel, agriculture, entertainment, property and health care. The pages are prepared by independent suppliers, known as "information providers" (Ips.).

The Post Office had hoped that Prestel would find a ready market in households and originally forecast that 50,000 sets would be in use by the end of this year. But partly

because of an initial shortage of sets and the high prices charged for them, there are still only about 6,000 subscribers. Of these, more than 5,000 are businesses.

The travel business is the single biggest market today, accounting for more than 1,200 of the sets installed. Prestel enables travel agents to look up information on air, land and sea travel and even to make reservations. The next biggest group, with about 200 sets, is investment companies.

The Post Office now accepts that a big residential market is unlikely to materialise in the short-term. It has decided to aim its marketing efforts principally at business users over the next couple of years, in the hope that set prices will fall sufficiently thereafter to stimulate an upsurge of demand among private subscribers.

One feature of Prestel, designed to appeal to business users, is a facility to rent space on the computer for storage of confidential information accessible only to designated subscribers. This arrangement, known as a "Closed User Group," would, for example, enable different branches of the same company to keep up-to-date on information about orders, stocks, accounts and so on.

For some business users though, especially those with large and dispersed operations, Prestel may not be sufficiently flexible and sophisticated to meet their needs. One case in point is the London Stock Exchange, which last June inaugurated a private viewdata system to replace its computerised share price information service, which informs brokers of market movements.

The Stock Exchange decided to install its own system because it needed a service on which information could be updated far more rapidly than is possible with Prestel. It also feared that brokers would have difficulty getting through to the central computer when they needed share price information if they had to rely on the normal switched telephone lines used to link Prestel terminals.

### Power

The Exchange's system, known as TOPIC, is based on a network of private circuits leased from the Post Office. But ironically, like many other City institutions, the Exchange complains that it is having difficulty

obtaining as many lines as it needs. So far, about 150 terminals are in use and a further 500 are on order.

The Exchange developed TOPIC itself, at a cost of about £1m. But a number of independent suppliers are now starting to offer ready-made private viewdata systems, at prices of £17,000 upwards. They include the General Electric Company (GEC), Redifon Computers, International Computers (ICL), Honeywell Jasmin and Argon, a subsidiary of the National Enterprise Board.

GEC plans to launch its first systems, later this month. It says that they will offer facilities for rapid up-dating of information, extensive editing, electronic messages and effective data security. Users will, for example, be able to store data on their own private file in the computer and retrieve it only from their own terminal using a personal identification code.

GEC's biggest system, priced at about £200,000, will be suitable for viewdata "bureaux." It anticipates that a number of private operators will want to set up bureaux which will manage information services for subscribers for a fee.

Redifon Computers, part of the Redifon Group, has already launched two systems which can either be used on their own or grafted on to an existing computer network. In the latter case, viewdata terminals can be used to gain access to data bases anywhere in the computer system.

Mr. Mike Aldrich, managing director, says that Redifon has already taken orders for 20 systems. He is enthusiastic about the potential for using viewdata as a learning aid, which will enable students to receive instruction in their own homes by following a programmed course through a terminal.

He also believes that viewdata could be used for "electronic shopping." Instead of visiting a shop, a subscriber would place his orders on a computer at a local warehouse and could even pay for them through his home viewdata terminal. But Mr. Aldrich acknowledges that it will be some time before enough terminals are installed in private homes to make such a service economically feasible.

Argon (formerly Inspec Viewdata) was set up to sell British viewdata products and technology to private customers abroad. Its main product is a private viewdata system, the

IVS. This was developed jointly

with Systems Designers (SDL),

which markets it in Britain.

Mr. Anthony Chandor, managing

director of Argon, says

that on the basis of current

orders he expects to see 10 IVS

systems operating within the

next 6 months, with each an

average of 500 terminals even-

tually attached. He believes

that the prime market for busi-

ness viewdata systems is in

applications where direct com-

munications are required be-

tween suppliers and their

customers.

For example, he believes that

department stores will install

viewdata terminals enabling

shoppers to find out exactly

what they have in stock and

where to find it. Wholesale

stockists could also use the

systems to take orders from

their customers.

Mr. Chandor is convinced

that the essential appeal of

viewdata lies in its simplicity

and ease of use. Though con-

ventional computer systems are

becoming easier to operate, he

believes that it will be some

time before they become

accessible to the average man.

"I've been watching com-

puter programs get easier

for some years," he says. "By

inevitably, you need an under-

standing of data-base manage-

ment and of computer

languages. With a viewdata set

there is really a feeling that

you can sit down in front of

and operate it without needing

any special instruction."

For this reason, he argues,

the temptation to make view-

data sets more "clever" should

be resisted if it also means

making them harder to use. In

the expanding world of view-

data, the motto seems to be:

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### FACSIMILE

JASON CRISP

OFFICE EQUIPMENT by crisp THE FACSIMILE transmission of documents has long been cited as a potentially very popular form of communication, but it has never taken off as once predicted. Yet, now that attention is constantly focused on the electronic "office of the future," hopes for facsimile are being raised again.

According to the prophets, the work station in the office of the future will have facsimile, alongside the video screen, the keyboard and the printer. Ironically, for so advanced a notion, facsimile transmission was invented in the 1880s, by Alexander Bayne.

Facsimile is also one of the earliest forms of electronic mail, as is telex, which has been widely adopted throughout business.

A facsimile machine allows a whole page of paper of A4 size to be transmitted along the telephone line to another machine then reproduced exactly, including diagrams and signatures, rather like a photocopy.

By scanning the document, line-by-line and transmitting signals which tell the receiving machine where the areas of light and dark are located on each line.

Unlike telex, which is a system of telegraphy, using teleprinters, facsimile has failed to become a normal form of inter-office or company communication. The primary use of facsimile is for a specific purpose between two locations, either within a company or to a single client.

The main users have been organisations such as banks—where it can be used for the verification of signatures—and in publishing and newspapers. (The Financial Times, for example, uses a number of facsimile machines to transmit copy to Frankfurt for our European edition.)

There have been a number of disadvantages in using facsimile as a general means of communication. International standards have developed slowly, which means that most machines have been unable to communicate with others apart from those of the same manufacturer. Fairly slow transmission times can mean expensive call charges. Many facsimile machines need to be attended and cannot receive when the office is unattended—although most

manufacturers offer automatic receiving equipment.

The very specialised facsimile machines with high resolution, used in meteorological and military applications, are made by the British company, Muirhead. But, in general commercial usage, there are three basic groups of machines which are differentiated both by their technology and the speed in which they can transmit a document.

Groups one and two, for which there are international standards set by the International Telegraph and Telephone Consultative Committee (CCITT), use an analogue signal (waveform) to transmit the document. Group one takes up to six minutes to transmit a page of A4 and many of the machines that were sold in this area were made by Rank Xerox.

Group two, which are sold by a number of companies, are quicker and have a maximum transmission time of three minutes. More advanced machines have "data compression" techniques which can speed transmission considerably.

Data compression can work in two ways, either the scanner jumps a line which comprises of white space with no text or it compares each line with the

CONTINUED ON NEXT PAGE



## OFFICE EQUIPMENT XI

## Demand continues despite recession

## REPROGRAPHICS

JASON CRISP

EVEN THE recession has failed to stem completely the growth in demand for photocopiers. In Britain, sales are growing by about 15 per cent, compared with an originally expected 25 per cent. But with dozens of companies aggressively battling for the market, prices in real terms continue to fall.

The Xerox empire—Xerox, Rank Xerox and Fuji Xerox—still towers over world markets, although it is increasingly coming under siege from Japanese companies. Indeed, one of them, Ricoh, whose products are sold in the UK by Nashua and Kalle Infotech, sells more copiers, in terms of units, than Xerox.

At the top end of the range, with high-speed and high quality copiers, there is little competition for the Xerox range and where there is any competition, it comes from IBM and Kodak. But in the low-to-medium speed plain paper copier range, which is where the major growth in business is found, the competi-

tion comes in hoards, and includes Canon, Minolta, Sharp, Toshiba and Ricoh from Japan.

The reprographics industry can be broadly divided into four main sectors. One: offset duplicators used for long runs of very high quality, used either in large companies or in print shops. Two: high-speed plain paper copiers used for high volume and long runs. Three: low- and medium-speed plain paper copiers; and, four: coated paper copiers.

Coated paper copiers are relatively cheap and fairly small, but the paper is much more expensive than for plain paper copiers. The copiers are of poorer quality, are difficult to write on and not particularly pleasant to handle and would not normally be sent outside a company. The continued fall in prices of plain paper copiers has eroded the price advantage of the coated paper at increasingly lower volumes of copies per month. Although a number of companies still make coated paper copiers, it is a sector which is in decline.

The major growth area is in low- and medium-speed plain paper copiers which can produce from 8 to 40 copies a minute, and is dominated by the

Japanese manufacturers, many of whose machines are sold by European and U.S. companies. Broadly, the market for these machines falls into two significant sectors.

## Number

Large companies which use this range of copiers in small offices and departments as an addition to more centralised high-speed copiers. The idea, according to the manufacturers, is also to have a number of small machines around the building for quick and easy use, thus avoiding delays and queuing.

The other significant sector is small companies and professional practices, such as lawyers and accountants, who will be trading-up either from a coated paper copier or from the use of a copy bureau. There has also been an increase in the number of relatively small machines which can have document feeders, sorters and staplers attached to them—facilities which were once the preserve of the large powerful and expensive machines. The rapidly falling cost of micro-electronics has made it much cheaper to provide extra facilities, as well as reducing com-

ponent numbers, which has increased reliability. And micro-electronics has reduced servicing costs because it can offer self-diagnosis of faults.

But the rapid growth in the small company market for plain paper copiers has had a major effect on how copiers are marketed. Rank Xerox, which for so long relied on a large sales force, selling directly, has had to make some major changes because of the very high unit costs of selling a single small or medium-sized copier.

Rank Xerox, following the lead of Xerox in the U.S., is to open its own retail stores. The pilot scheme begins with two shops opening in London this month and there are plans for a third within six months. The stores will sell other office equipment like Apple computers, calculators and word processors.

A number of other copier companies are looking at ways of introducing their smaller and cheaper plain paper models into retail outlets. The low end of the range of plain paper copiers is seen, by manufacturers, as a commodity market. At this level, it is no longer feasible to support a salesman

on the road to sell individual copiers through direct selling. Most companies in the UK combine direct selling with a dealer network.

A number of companies are having to devise means of reducing the marketing costs of their lower priced machines. Nashua, a U.S.-owned company which sells copiers made by Ricoh, is using self-employed agents to sell its latest very small plain paper copier in a bid to cut overheads. The company claims it is the smallest in the world of its type—it is also sold by Kalle Infotech. Nashua will still install and service the machine.

Rank Xerox, which has long relied on direct selling, is now looking at a number of ways of cutting its costs and in addition to the retail stores has started selling by telephone.

Rank Xerox has also filled out its range where there had been a number of gaps which were being exploited very successfully by other companies. It means that it is competing in some of the fiercest areas, with the lowest margins.

## Onslaught

Ricoh, which traditionally has been sold in the U.S. by Savin and in Europe, by Nashua and Kalle Infotech, has announced it is entering both markets directly. The three companies which market Ricoh's products will continue to do so until 1983, and some for longer. Ricoh is poised to sell plain paper copiers with a dry toner and some parts of the industry suspect it is girding itself for a major onslaught on Xerox.

Although Ricoh's skills as a manufacturer are reputed to be high some parts of the industry question its strengths in marketing. But Ricoh appears to be moving cautiously and is setting up dealer networks in a number of countries. Nashua has begun to manufacture its own copier in the U.S. and Savin is expected to begin its own manufacture shortly.

There are over 30 companies marketing more than 150 different copiers in Britain alone; of which the leading companies are Rank Xerox, Canon, Nashua, Agfa-Gevaert, Gestetner, Mitsubishi and IBM.

Most observers anticipate two trends. The first, which is already happening, is a diversification of selling methods. The second is a restructuring of the industry into a fewer number of suppliers, although

this is not necessarily anticipated in the short term.

## Unchallenged

At the top end of the market, Rank Xerox remains largely unchallenged—for the time being. It has recently launched a range of new equipment in the UK. It includes a copier which produces 120 copies a minute at a very high quality which, the company hopes, will make inroads into the metal plate offset market.

In the U.S., Xerox launched its first "intelligent copier" which, in addition to high-speed copying, can receive text directly from both Xerox and IBM word processors and computers. A number of other companies have been racing to develop similar products, including both Japanese and other U.S. companies.

Although Rank Xerox continues to dominate at the top end of the copier range, few doubt that the Japanese companies will begin to chase it upmarket. And while the total market for copiers is predicted to continue to grow, some of the combatants are likely to withdraw in the face of some highly efficient competition from the leading companies.



The Xerox telecopier 485, the latest addition to the Rank Xerox facsimile transmission equipment which already holds a major market share in the UK

## Facsimile machines

CONTINUED FROM PREVIOUS PAGE

previous one and only transmits the changes.

Nexos, the National Enterprise Board's office equipment subsidiary, markets Multired's facsimile equipment including one group two machine made by Multired itself and one made by the Japanese company, Oki. Plessey markets machines made by the Japanese company, Matsushita. Other companies in the market include Dex, 3M, Siemens and ITT.

Kalle Infotech, a subsidiary of the German chemical giant, Hoechst, is the major supplier of group three digital facsimile equipment which can send a page of A4 in times of 30 seconds to one minute. Kalle Infotech's facsimile is made by Ricoh, a leading Japanese manufacturer of photocopiers.

Until now, there has not been an international standard for group three, but earlier this year one was published by CCITT which is expected to be ratified this month.

Although it is not expected to introduce a sudden growth

in the digital facsimile market, a number of manufacturers are expected to be introducing new machines which are compatible with the new group three standard.

Kalle Infotech itself will be introducing a more expensive machine which has been adapted to meet the standard or it will convert existing installed machines for between £1,250 and £1,500 each. The company claims there is an installed base of 25,000 machines worldwide (around 1,100 in the UK) which means it will be some time before the group three standard becomes more common than that of the Ricoh built equipment.

Mackintosh Consultants, in its study on electronic mail, has estimated that the number of digital machines in the UK would reach 23,000 by 1985, a forecast which it now says is "slightly pessimistic".

A significant factor in the development of facsimile is con-

nected to the price of electronic data storage or memory. To transmit a page of information, the text has to be scanned very finely so that many thousands of pieces of information are sent to the receiving machine. By contrast, communicating word processors only need to send a small amount of information to transmit a lot of text; this is done in a form of computerised Morse code.

But once a memory—such as a floppy disc—is attached to the transmitting and receiving machines, the information may be transmitted very quickly, saving telephone costs, after being scanned and then retrieved at the operating speed of the machine. It also does not restrict the operator to the availability of overseas lines—thus, facsimile can be sent overnight, at a more economical rate.

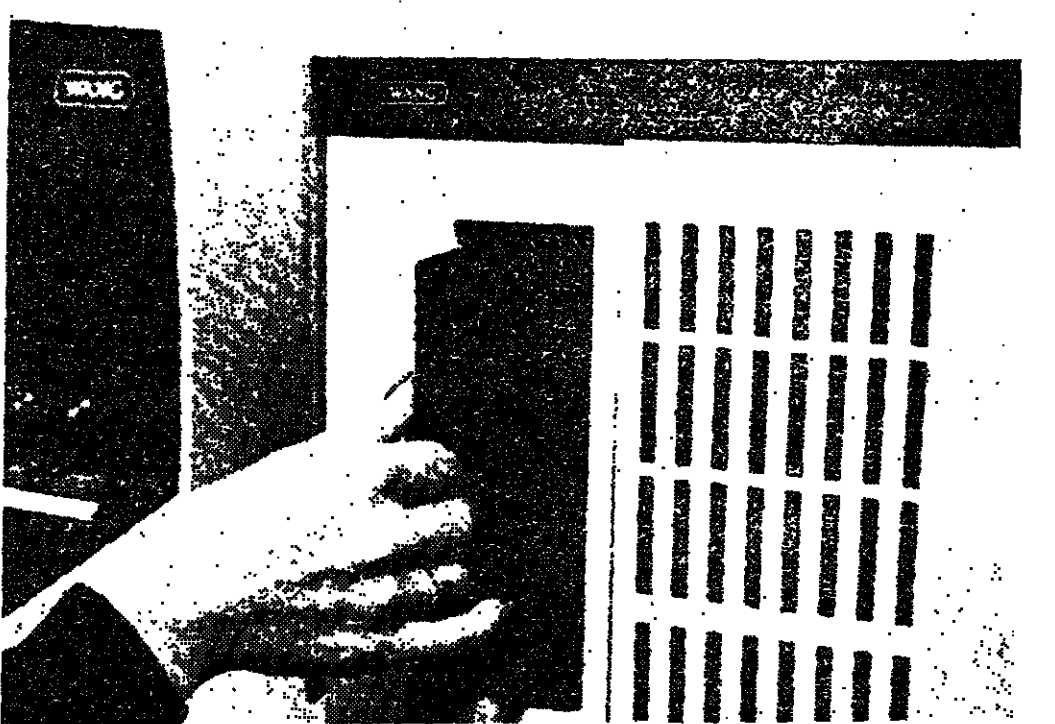
The problem is the memory is at present too expensive to make it economic, but prices are falling rapidly and, accord-

ing to Mackintosh, it will begin to look feasible to add a floppy disc to a facsimile machine by about 1984-85. Then it will have the advantages of high speed transmission, store and forward, as well as that of being able to send diagrams.

Another basic advantage of the system is that it does not involve the expensive process of retyping, as the original document can be transmitted.

Inevitably, the growth in the market of word processors, which will be able to communicate with each other, is a potential threat to facsimile. Similarly, intelligent copiers, which can communicate with each other, are seen as a much more distant threat.

Facsimile is unlikely ever to become as popular in Europe as it is in Japan, where the number of characters in the script make it a very attractive way of communicating. But, according to many observers, the method will grow in popularity and it will be a long time before it is superseded.



A new "archiving workstation" from Wang stores and retrieves documents at sites up to 2,000 feet away from the system master. Operators in remote locations protect the confidentiality of their documents and conveniently retain control and storage of their text at their own work areas

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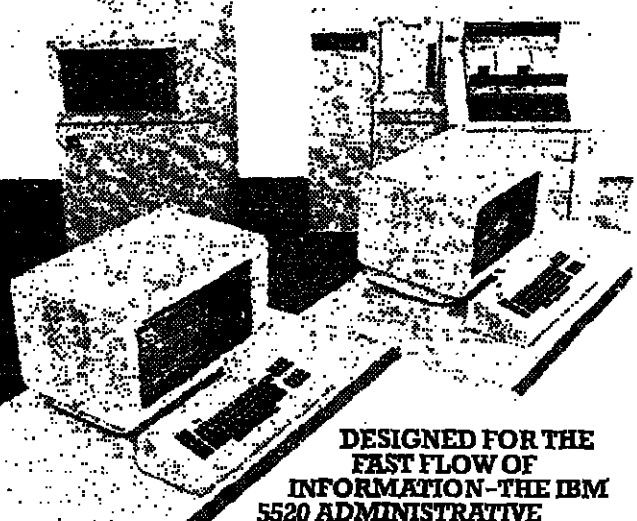
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gives confirmation of delivery.

It's easier than you think. For example, special instructions appear on the screen in plain English when help is requested and you can control many different functions from one work station.

In fact, the 5520 can do several things at the same time. As well as the communications activities, many of the traditional word processing revision and pagination functions can, if desired, be carried out by the system automatically, thus leaving the secretary free to undertake other tasks.

The IBM 5520 is an integrated system supporting multiple work stations, all sharing the same information and facilities. And the 5520 can form part of a network exchanging information and documents with other 5520's, suitably programmed System/370 computers as well as the new Displaywriter.

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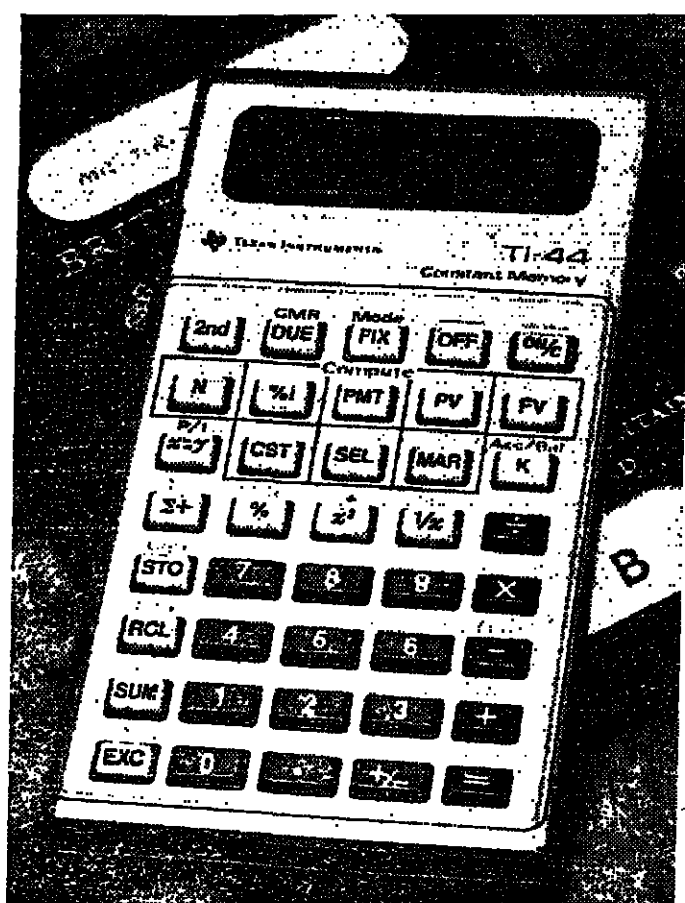
\*Excluding VAT.





## OFFICE EQUIPMENT XII

## Tending towards specialisation



Calculators for the businessman: The model TI-44, above, has special keys which produce immediate solutions to many commercial problems. With a suede-finish vinyl wallet case, it comes complete with a manual containing operating instructions and examples of problems which can be solved. It costs under £35

Below: The Citizen 101-DP calculator which is designed "for the busy desks of middle management"

CALCULATORS  
ELAINE WILLIAMS

WITH THE general consumer market for calculators fairly static at about 50m units a year, worldwide, manufacturers have begun to specialise in those areas which still show a growth. These are the office equipment and professional/scientific markets.

Today, the cheapest four-function calculators have become "throwaway" items costing typically around £5 and only those companies with large market shares, such as Sharp and Casio, can produce the production volumes necessary to make a profit from this market.

However, in the office and scientific sector there is far more added value and more specialist makers can offer machines which are specific to a company's or individual's needs.

## Expansion

A few companies such as Texas Instruments and Hewlett Packard have always adopted this market specialisation to some degree or another — Hewlett Packard produces a range of scientific machines which from small computers.

Texas Instruments is also heavily involved in the technical sector although it also participates in the general consumer market. The company produces not only traditional pocket calculators but also a variety of machines which provide translation into and from foreign languages; other items help children learn to spell and count.

For business applications, language translators are being sold to encourage language barriers to be broken. Many of the machines provide vocabularies of more than 500 words, with a few sentences and phrases.

Such machines cost around £100, although the price of the simpler machines falling as they are overtaken by more sophisticated models. Early examples were of limited use, since they could only retain a list of about 100 words. Before long, it may be possible to throw away business phrase books altogether, using instead, an electronic translator.

One of the most lucrative areas of the market is the burgeoning office equipment sector. Many of the companies which compete here are also involved in other aspects of office equipment and include Olympia International, which makes typewriters; Triumph Adler (OEM Group), another typewriter maker; Casio, Canon which manufactures office copiers, Sharp; Toshiba in Japan, and Esselte-Dymo which sells the Citizen brand.

Office users are becoming more selective about their choice of calculators, avoiding over-complex models which may be capable of handling intricate, but seldom-used functions, in favour of more simple designs, aimed at the user's particular duties.

Some examples of this trend include a range of seven desktop models from Facit which vary in facilities from a ten-digit, print-only machine to a 14-digit print-and-display model with two independently addressable memories. Other companies, such as Olympia and Toshiba, have equally large ranges of calculators, some which have small high-speed printers.

In addition, many machines offer a variety of features such as integral clocks and calendars. Toshiba, for example, offers a pocket calculator which can show which date falls on which day of the week.

## Facilities

According to the company, the machine can be used to find out and plan for business commitments, holidays and anniversaries; it also acts as a clock, alarm and stop watch and has a four-key memory.

Some manufacturers have models which allow entries to be made for future dates. Other types of office machines, such as word processors, often contain such functions and can automatically print out what appointments are due and when.

It is now becoming common for even small hand-held calculators to have a small printer attached which cost, typically, less than £50. Many of these items are now being sold into the home as well as the office.

In the traditional hand-held calculator sector, the extension of battery life has become an important selling point in both domestic and office applications. In some early models, batteries would only last a matter of

weeks, or a few months at most; calculators are now expected to last up to a year or more.

Extending the battery life has been achieved in two main ways: first, by incorporating displays which consume less energy and, secondly, by new battery design.

Early calculators which were battery-operated used a light emitting diode display (LED) which were often a glowing red in colour. Unfortunately, these were relatively power-greedy devices and, by the late 1970s, began to be overtaken by a low-power display, using liquid crystals.

Liquid crystals now dominate hand-held calculator displays; these are composed of a glass

sandwich with liquid crystals in tiny cells between two glass plates, which are etched with patterns of numbers and letters. The liquid crystals are made up of organic material which becomes dark in colour when a voltage is applied to a particular cell.

## Design

Each cell is connected to the electronic control circuitry so that the chemical can be made to appear dark or transparent at will to form any particular number.

In the field of battery design, batteries incorporating lithium, instead of silver dioxide, are

being introduced. This has resulted in increasing battery life from about 1,000 hours to more than 8,000 hours which extends the operation of a calculator without a battery change, for up to ten years.

Last May, for example, Olympia introduced three-pocket machines with lithium batteries which have no means of changing the battery. The company says that users are likely to become bored with the design of the LCD 80, 380 and 480 long before the battery reaches the end of its life.

As well as lithium, some manufacturers have even introduced solar powered calculators which, it is claimed, can store enough energy — even in

Britain's unpredictable climate — to operate satisfactorily, in any office.

With the collapse of the general consumer calculator market in 1978, those models which come under the classification of office equipment tend now to be marketed through dealers in professional supplies, while the low-price, pocket and hand-held models are still distributed through the major high street multiples.

Dealers, therefore, have a far closer relationship with the manufacturers and the range of models that they supply, so that the business user is able to obtain sound advice on the type of calculator which will best suit his needs.



A range of desk-top dictation machines from Philips Business Equipment features a visual "mark-and-find" facility, giving precise visual instructions on the cassette tie. The facility gives a secretary precise knowledge of the nature and amount of work left for dictation

## Sales expected to double over next few years

## DICTATING MACHINES

DAVID CHURCHILL

THE BRITISH market for dictating machines which, at present, has retail sales of about £20m, is expected to double over the next few years as a result of new technological developments making dictating equipment an effective means of reducing costs.

The main development which will spearhead this growth is micro-technology which is making dictating machines more portable than ever before. But a further factor is the increased use of automated word-processing equipment in offices — in the constant search for greater productivity — which will make it even more important for efficient word-inputting via dictating machines to match the sophisticated word-processing.

Probably the key advantage of a dictating machine system is the savings that can be made in executive time. The dictating machine user is able to give dictation at any convenient moment, in or out of office hours, without the need to arrange for a secretary to be present. This also can lead to substantial savings in staff time and costs — especially important in view of the rising scale of secretarial salaries.

Demand, overall, for dictating machines has increased in direct response to the increasing need for transcription capabilities within the office. It is considered essential that, in order to make the best use of expensive office overheads, both equipment and staff time are put to optimum use.

A guide for potential buyers of dictating machines, published by the Business Equipment Trade Association, stresses that it is essential for managements to determine exactly what type of equipment is required.

It suggests that a specialist consultant's advice may even be necessary before any final decision is taken.

Moreover, the guide points out the short-sightedness of buying equipment on price alone, without careful consideration of the user's requirements as well as the possible expansion of an organisation. The guide also suggests that the widest possible range of different suppliers should be asked to submit quotes, giving the greatest number of options possible.

The guide also points out the importance of proper training. It suggests that while the typist

can usually master a system within a short time, it is more important that the executive using the machine should be properly trained.

"It is probably fair to say that users would be better advised in ensuring that the equipment or system is fully utilised in a competent fashion than being over concerned with the technical excellence of the equipment," the association guide says.

Most executives would obviously prefer to do their dictation with a secretary taking notes and many become tongue-tied at the sound of their own voices. For that reason, users may be quick to find fault with a machine. Manufacturers therefore aim to make their products as easy to operate as possible.

"We have to make sure people don't find an excuse to throw the machine aside and revert to their old system," one company candidly admits. Most of the larger manufacturing companies offer training schemes in conjunction with their equipment. But many users still regard training as unnecessary in the belief that dictation is a simple matter. Most manufacturers consider that it is unlikely that a user will obtain the best out of equipment unless some training is given, sometimes for as little as one day.

## Divisions

The dictating machine market is divided into two main types of machines: those which are portable and those which are primarily intended for desk-top use, such as for play-back as part of a wider word processing system. However, it is the small, portable machines which have accounted for the fastest growth.

The size of portable machines is largely determined by the size of the cassette, and there are three main sizes to choose from. Firstly, there is the standard cassette, used for domestic tape machines and, thus, generally considered too large for small portable machines.

Secondly, there is the mini cassette which is the most popular size. The mini-cassette is about the length, width and half the depth of a matchbox and can record 15 minutes each side, although some can record for 40 minutes.

Thirdly, there is the micro-cassette which is slightly smaller than the mini-cassette.

The development of this micro-technology has enabled the major companies to market their machines especially for the travelling businessman who can keep up with his work literally "on the move."

The dictating machine market is Philips, which has about two-thirds of the market. One of its most popular systems is the 300 series, launched in 1978, which introduced the mini-cassette system with the "mark and find" indexing system. The cassette has a special built-in index strip on each side which indicates to the typist the number of letters, their approximate length and special instructions on the tape.

The growth in portable

machine sales, however, has led to renewed activity in this field by other major manufacturers, especially Dictaphone, which has about half the market for centralised dictation systems. There are about 20 manufacturers in this field, including IBM, Sony, and Lanier, all vying for a share of the growing market. This makes it even more necessary for companies to carefully "shop around" for the best system for their needs — at the right price.

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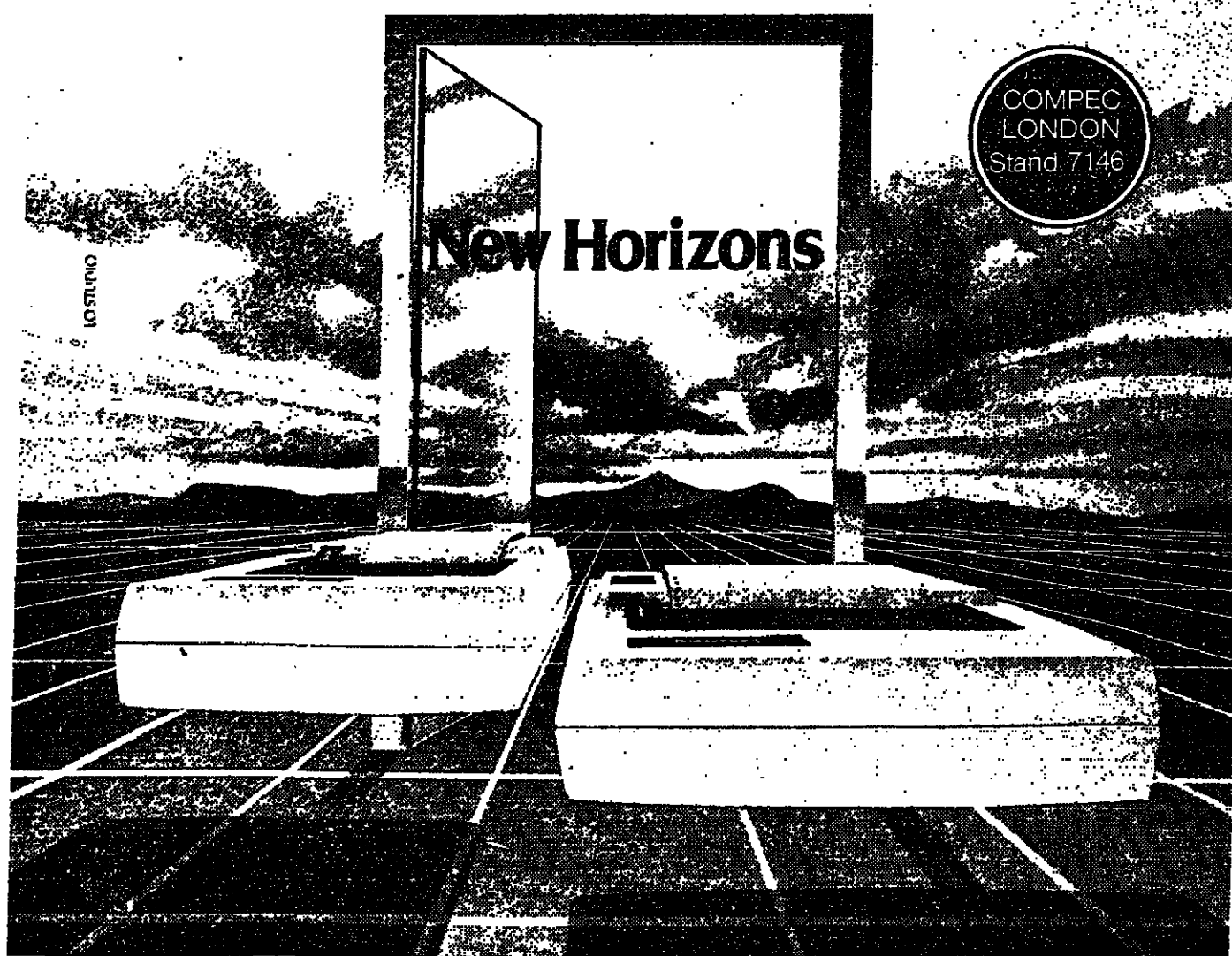
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## OFFICE EQUIPMENT XIII

## More sophisticated systems may soon emerge

## MICROGRAPHICS

GEOFFREY CHARLISH

REDUCED TEXT images on film are nearly as old as photography itself and can be traced to an Englishman called Dancer in 1839. A French photographer used carrier pigeons to fly 100,000 messages out of besieged Paris in the Franco-Prussian war (1870). But microfilm was first used commercially in 1925 to film cheques in a New York bank. Kodak first offered equipment in 1929.

The financial institutions are still the main users, accounting for a quarter of the market but nowadays manufacturing and government are not far behind. Consultants G. G. Baker and Associates put the total UK market at nearly £65m, covering hardware, maintenance, consumables and bureau services.

Growth of the market has been at about 20 per cent per annum for some years but whether this will continue depends on erosion by electronic storage techniques.

For example, if a document has to be typed, it is an increasingly cheap and simple matter to hold the text on a magnetic disc or even a solid state store for play-back on a printer in a minute or two.

Even original documents that need no operator keyboarding such as cheques can be scanned and stored digitally—with the advantage that they can then be transmitted somewhere else. The legality of such techniques is still under consideration, however.

Where maps and engineering drawings are concerned microfilm certainly scores at the moment but they will be increasingly composed on VDU cathode ray tube screens from touch tablets or external digital data—which is easy to store on disc. The data can then be plotted automatically for shop-floor drawings in a few minutes (assuming, in tomorrow's world, that such drawings will even be needed).

All these and other things are possible and the objections to them usually quoted of capital cost and the need to key in data are losing strength. Electronics is getting cheaper and cheaper

and in the integrated office environment the document has to be created somewhere. It used to be emphasised that microfilm could not be altered, but recent developments have changed even that.

At the moment, the clear-cut application for film is in totally archival, long-term, relatively cheap storage occupying minimum space and this will probably remain the case for at least the next decade.

Which of the presently used microforms will endure is hard to say. Those available are 35mm roll for engineering drawings, 16mm roll and cassette, jackets (strips of 16mm film in a holder, making updating less expensive), fiche (up to 200 images on a postcard-size piece of film), microfiche (3,000 images) and even 105mm roll film. There are a variety of ways in which the images can be put on the material and a number of proprietary ways of retrieving them.

In terms of viewers, some of which will print copies as well, there are well over 250 equipments to choose from. The considerable variety of both format and equipment hardly fits the

industry for countering the attack of electronics.

Jackets may lose favour in view of the recent announcements by A. B. Dick and Bell and Howell of updatable fiche. The former allows blank spaces in a fiche to be filled while the latter permits a frame to be erased and replaced with another, ad infinitum. No wet chemistry is involved in either case. Clearly, the Bell and Howell system, called Microx, has shifted microfilm away from its archival posture rather sharply: some of the flexibility of electronic storage is now vested in film.

## Possibilities

At this point, alliance with electronic data processing could give some interesting machines. Both document filming and VDU screen filming on to these fiche would allow two stores: one rather more current and electronic and the other rather more archival and filmic. The technology exists for the images on film to be scanned into a digital signal, crossing the film/electronic barrier in the other

direction and allowing display of the film image on some distant VDU.

Once this interface between film and electronics is established other office activities can be embraced including word processing, facsimile, business data processing—even copying would be feasible, from the fiche.

It is not too difficult to visualise such a machine centred around a VDU work station in which the image on the screen is repeated internally on a high resolution tube for fiche recording. The work station would accept images/data from disc (word processing, business data, etc.), from a line-by-line scanner of original documents or fiche (via a single frame store), from facsimile input or from external data bases such as viewdata. Anything could go on or off fiche or on and off disc, more or less at will.

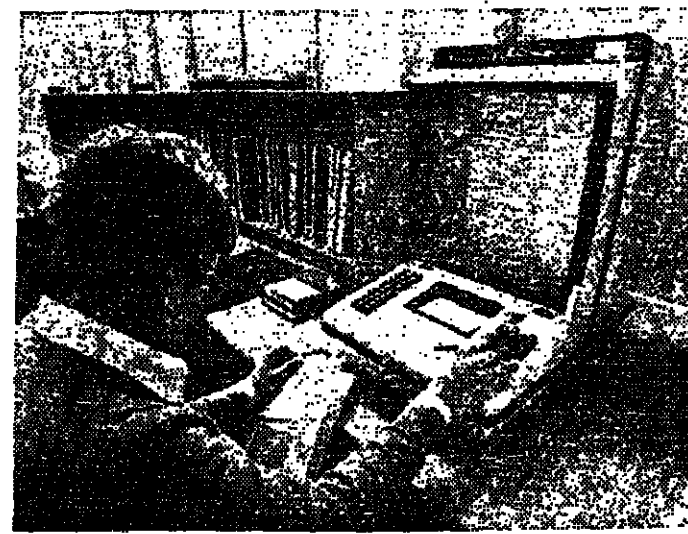
Such an all-embracing system may not be too far away since one of the difficulties, reasonably quick microfilm access, has already been solved to the point where any frame from 4m, stored on 105mm roll film in

multiple cassettes, can be on screen in under 10 seconds. Carousel systems with 760 fiche can store 200,000 frames with access in three or four seconds.

A few weeks ago Terminal Data Corporation and Antone Systems of Bournemouth demonstrated such storage and a good deal of the electronic technique mentioned above. The accessed frame is digitised by a line scan camera, held in a solid state frame store and made available to terminals which have intelligence and character generators to allow annotation of the "film" image on the screen. The German police are to use the system to add radio-derived positional data about accidents to maps brought up from a fiche store—automatically.

Also tackling fast fiche retrieval is Access Information in the U.S., and the equipment is marketed here by A. B. Dick. This holds the fiche in linear rows in magnetised fiche holders; a magnet extractor system commanded from a keyboard pulls out one fiche from thousands in a few seconds.

At a rather less glamorous



Microfiche equipment from Bruning Micrographics in use at the British Library

level Kodak recently showed how normal VDU-based retrieval of brief customer data from a computer can be backed up with fuller data from microfilm. Input source documents (invoices, shipping tickets, bills of lading, etc.) are initially coded and microfilmed and paper copies of them are passed to the VDU/reader operator who keys in the code along with the customer data for the computer.

At inquiry time, when the VDU is used to bring up a upon it, customer file from the computer for query purposes, displayed digits tell the operator which film cassette to load from a bank into the reader. A direct data connection from the computer drives the 16mm film to the right frame within seconds. More sophisticated developments of this kind will probably emerge soon; indeed, some feel that the future of microfilm in tomorrow's office will depend

## Trend towards small electric machines

## TYPEWRITERS

LISA WOOD

AS A nation Britain is among the most conservative in the developed world in its use of improved typewriter technology.

For it was in 1977 that for the first time sales of electric typewriters overtook sales of manual machines. While in Germany today only about 10 per cent of typewriters sold are manual and in Southern Ireland, about 25 per cent, in Britain about 30 per cent of total typewriter sales are still manuals.

Mr. Chris Hedges, chairman of the typewriting division of the Business Equipment Trade Association and director, marketing, Smith Corona, said: "The fault has not been so much that of consumer resistance, but more at the door of manufacturers and dealers."

Many dealers, for example, were brought up with the

manual and still have the big heavy typewriter mentality. That is, if there is a commercial need, the product must be big. We now need to suit the product more to the requirements of the market."

The trend in the industry shows a very definite swing towards use of the small electric machine. In the second quarter of this year, the market for heavy duty office manuals and heavy duty office electric machines fell by about 40 per cent compared with the same period last year. However, growth was seen in the market for small electric machines, with sales growing by more than 15 per cent on the same period last year.

## Impressive

The growth in sales of small electric machines during the last 10 years has been extraordinary. In 1974, about 4,500 electric machines were sold in the UK, the market being pioneered by Smith Corona. Sales are now running at about 80,000

units a year and the major manufacturers, including a strong new presence by the Japanese company, Silver Reed, produce a wide variety of machines.

A third option to the consumer is the electronic typewriter. These offer certain advantages over the existing electric machines — be they golf-ball or bar typewriters — in that they are quieter and can centre headings, give right and left-hand justification, corrections and tabulation printing, all done automatically.

Companies have gone to great lengths to persuade secretaries, worried by the inroads being made on their jobs by electronics, that the electronic typewriter will not put them out of a job. Olivetti, for example, in introducing the ET 201 and ET 221 into the UK last year, took 800 secretaries to a special launch to show the electronic typewriters.

At the moment, much of the resistance in the market is because of the price of the elec-

tronic machine, which can cost up to £1,400, but as with all electronic equipment the cost of production falls as volume production increases. Dramatic examples of this have occurred in the electronic calculator and electronic watch market.

However, such large falls are unlikely in the typewriting field as the typewriter is a professional piece of equipment which has to be regularly serviced and also has a higher profit mark-up. But the great advantage of the electronic typewriter is that it has fewer moving parts than a conventional electric machine, and therefore is more quickly assembled, is easier to maintain and repair and, in theory, has a longer life-time.

Although the UK market for typewriters this year has been generally depressed, manufacturers are optimistic of their machines' future. For much of the fall-off is because companies are delaying replacement of machines and when the economy picks up sales will respond accordingly.

Although some machines may be replaced by word processors, manufacturers say that these will be mainly located in the "typing pool" regions of the office, with their heavy duty machines. Demand for electric and electronic machines will be maintained (and increased in the electronic area), particularly with the growth among companies of "key-board literacy."

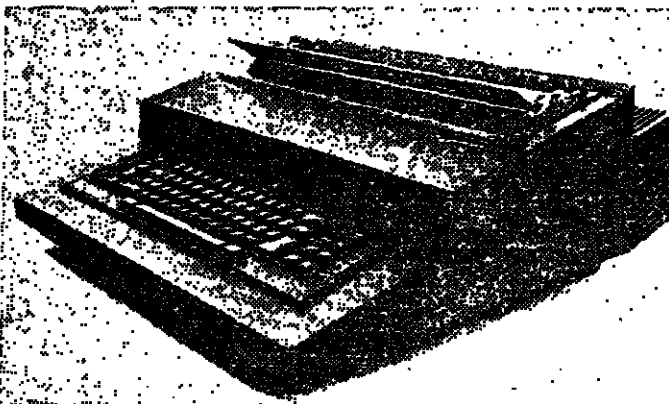
The greatest growth area, according to manufacturers, must come in the field of the electronic typewriter. A new electronic machine introduced by the Smith Corona Corporation in the U.S. is one of the most interesting recent machines. It uses a typing element, driven by ultrasonic waves. This advance eliminates between one-third and one-half of the mechanical parts found in a conventional electric machine. This product sells in the U.S. for \$900, about one-half the price of comparable electronic typewriters offered by IBM, Xerox or the

QYX unit of Exxon.

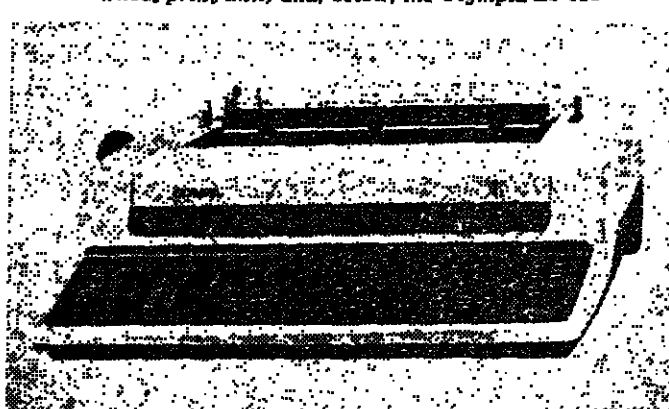
But the established giants of the industry are facing a new threat—that of Japanese manufacturers. They are poised to enter the electronic market with a vengeance and have already made swift inroads into the electric machine market. The Japanese, with no large domestic market for typewriters because of the language, used Germany for their marketing attack and now dominate the small electric sector of the market.

Existing companies will now have to look to their laurels. Some may decide to leave volume production to the Japanese and move to even more sophisticated technology with attendant higher prices.

"We have a real battle on our hands with the Japanese," says a Smith/Corona spokesman. Maximum effort must be made by the established companies to market their new products, as long as the price gap between their products and those of the Japanese does not become too large.



Above: the Olivetti ET-121 electronic typewriter with daisy-wheel print unit; and, below, the Olympia ES-110



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## OFFICE EQUIPMENT XIV

## Manufacturers facing a period of retrenchment

## FURNITURE

DAVID CHURCHILL

THE UK market for office furniture, which has remained buoyant for the past few years in line with the overall strength of demand for office property, now seems likely to face a period of retrenchment as the recession leads to fewer office developments.

Several other factors are also likely to combine over the next few years to give the office furniture manufacturers a fairly rough ride. One adverse factor is likely to be the slowdown in orders from the Middle East, which in the mid-70s emerged as an important market as the oil-rich Arab world indicated a clear preference for British office furniture, instead of its German, Swedish, and American competitors. The political instability in that region, however, has already led to a downturn in sales.

Another problem in the UK market is the "U-turn" in Government policy of dispersing some of its offices away from London, as well as cutting back on the role of the Location of Offices Bureau. The exodus from London during the 70s played an important part in stimulating domestic demand for office furniture.

And there can be little doubt that the small businessman, in particular, does not feel as prosperous enough at present to refurnish even his own office, let alone his secretary's.

## Divisions

The office furniture market is divided broadly into two main sectors. On the one hand, there are furniture consultants who offer a more extensive work study of a customer's needs before recommending the appropriate furniture. The second, and larger area, is the conventional retail and wholesale furniture trade.

The main theme in the development of office furniture, however, has been the growth of "systems" designed to make the most efficient use of a limited amount of office space. As office rents have soared during the 1970s, so has customer interest in these systems grown rapidly.

One approach, pioneered in the U.S., is basically a compromise between traditional walled offices and open-plan. It



"OFFICE 2000" opened by the Industry Secretary, Sir Keith Joseph: a new centre in London, showing the latest in business equipment. The centre is the showpiece of the Office International Group, as well as an exhibition centre for the business equipment industry. With Sir Keith, from left: Sir Nicholas Cyster, chairman of the British and Commonwealth Shipping Company; Mr. Leonard Sculthorpe, chairman OIG; and Mr. Barry Hordle, deputy chairman OIG.

consists of moveable walls — because most people like to work within walls — which can be grouped to form a honeycomb effect. A development is to attach working areas to the walls, with an obvious saving in space.

Another system, closely associated with German furniture manufacturers, is to group desks together according to the work patterns in the office. This has the advantage of being more like open plan and gets away from the use of walls.

The move towards systems furniture has also been helped by the greater willingness of customers to buy quality materials, rather than go for the cheapest alternative. This has been helped by the fact that, with office rents so high, office furniture is now a much smaller proportion of the total cost of accommodation and therefore it becomes more feasible to buy food quality furniture.

Higher quality furniture has the advantage that it not only saves a company money — for the obvious reason that it will last longer — but it also has

more immediate advantages of built-in accessories. Instead of cluttering desks with telephones, calculators and clocks, these items can often be incorporated into the furniture. The legs of desks can be used to carry the wiring, for example, and all the electrical inputs can be gathered together in a box attached to the bottom of the desk.

Although most offices are a hotch-potch of designs, materials, and equipment, ideas are making inroads. Filing cabinets, for example, are often considered to be too space-consuming — so a modern trend is to go for shelving storage, rather than upright cabinets.

Much research also has been carried out into chair design, especially since more than 15m working days are lost each year through back complaints (more than all the days lost through strikes), and the bill to the National Health Service is in the order of £300m. The Civil Service, in particular, is anxious to improve its chair and desk designs so as to reduce the number of back complaints.

Safety factors are also play-

ing an important role in the development of office furniture. Furniture must have rounded edges which will not snag on clothing and chairs and desks must be stable. Filing cabinets cannot be allowed to topple over; and the power leads which feed desk-top equipment must not present a major office hazard. The use of VDU's requires carefully controlled lighting levels while desk tops are designed to minimise reflected light glare.

Future developments in office furniture are likely to reflect the trend towards a compromise office, neither small and cellular but also not strictly open plan. Screens, for example, are likely to be increasingly popular since they are useful as display boards and allowing storage units to be attached, as well as making individual desks into complete "work stations" if needed.

The problem for the furniture manufacturers, however, remains one of whether demand will increase sufficiently to make new developments in design and efficiency worthwhile.

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## SOCIAL IMPACT

JOHN LLOYD

THE PROPAGANDISTS for office automation and its opponents, usually occupy the opposing sides of the same coin. The first group stress the benign effects that computerised technology will have on the working environment and upon work practices — relieving the drudgery, speeding the flow of information.

The others point to the increased rate of work exacted by the new equipment, its capacity for detailed surveillance of the worker, its capacity to dehumanise office work by cutting down on leisure or slack time.

It is therefore unusual to see a leading manufacturer of office products choose, as it were, from the contents of both sides in his best short description. This writer has seen of the social purpose of office automation. (Note: "Taylorisation" in the ensuing quotation refers to the adoption by late 19th century manufacturers of organised production line techniques, after the models developed by Frederick Taylor, the U.S. steel executive).

"The Taylorisation of the first factories, developed as the answer to competition between companies, is a digitalisation of the productive process.

"At first, it enabled the labour force to be controlled and was the necessary prerequisite to the subsequent mechanisation and automation of the productive process. In this way, Taylorised industries were able to win competition over the putting-out system.

Data processing is, therefore, a continuation of a story which began with the industrial revolution, which incorporates the development of abstract terminologies within the development of technologies. Information technology is basically a technology of co-ordination and control of the labour force, the white collar workers, which Taylorian organisation does not cover.

Co-ordination and control — this is letting the cat out of the bag, indeed! Yet it is not merely a novel, perhaps uncommonly

blunt, way of expressing the self-evident truth? These figures on productivity lie behind the statement:

● Growth of office staff in ten years — 45 per cent (against six per cent of total worker population).

● Productivity growth — 4 per cent (against 80 per cent of the worker population).

In short, office staff simply are not delivering the goods in the same increasingly efficient way as their blue-collar counterparts. That is not, of course, their fault: they are relatively grossly undercapitalised, with only around £800 worth of equipment invested in them (the average), as against an average of £10,000 to £12,000 in a factory worker. Thus, like the blue collars, the white collars will soon begin to reap the benefits of greatly increased investments — namely, a radical change in work, and less of it to go around, coupled with a greater stress on regular, paced labour.

Or probably so. Care has to be taken about these predictions, as we are constantly reminded: there are those who claim that office work will increase as we adopt automated systems, (the faster we adopt them, the faster and the more it will increase), because the higher productivity will generate demand for more and more services, outstripping the productivity gains. This is possible but, on available evidence, unlikely.

Comprehensive  
The most comprehensive attempt by the British Government to predict employment change, consequent upon the adoption of computerised systems, was characteristically balanced in its pronouncements on office work:

"... it is not possible to make quantified comparisons of the staffing of the electronic office, with its predecessor. In any case, in practice there will not have been a single jump from a fully manual to a fully electronic office; there will have been a slow, steady evolution from the one to the other, so that even when such offices do enter the realm of reality, comparisons with manning levels in earlier systems may not be easy.

"It is immediately clear, however, that a lot of conventional jobs would disappear.

Word processing equipment would reduce numbers of typing staff... filing clerks could be greatly reduced in number... a third area of work that could obviously be affected would be that of message carrying.

"On the other side of the equation, the only job-gains that can immediately be seen are the programming of the electronic systems themselves."

(The Manpower Implications of microelectronic technology: Department of Employment, HMSO, 1979.)

On balance, then, there is a careful forecast of job loss. And indeed, if office jobs are to be "Taylorised" in the same thorough fashion as industrial jobs have been, then, on that analogy, we can expect employment to shrink, both relatively and absolutely.

Clearly, we can expect both an expansion of services and the creation of jobs in electronics, software production and maintenance. But a commonsensical review of the immediate future suggests that the loss of jobs in the labour-intensive areas of the office cannot be compensated by situations vacant for programmers and electronic maintenance engineers — leaving aside the problem of transition from one skill to the other.

It is precisely this view which has caused concern to unions and governments worldwide. White-collar work has, together with the service sector, largely compensated for the fall-off in employment in the primary and secondary sectors.

When both of these previously growing areas are under attack, what is left but unemployment? In a characteristically imaginative way, the UK's wonder-growth union of recent years, the Association of Scientific, Technical and Managerial Staffs, has mounted a campaign which prominently figured a dustbin overflowing with white-collars, stressing that few (with the obvious exception of ASTMS) cared for the fate of the bureaucrats. The union does, indeed, have a strong impetus for caring: like others, it is losing membership, an unfamiliar and uncomfortable feeling.

This threat to their members' livelihood, and to their own strengths has rarely made the unions act in a reflexively obstructive fashion.

To be sure, there have been delays in bringing in automated office equipment, most notably in town halls where the unions are strong and bureaucratic procedure frequently leisurely. Certainly, there has been — again, in those areas where the unions have a purchase — an insistence on health and safety procedures for those working with visual display units, which has resulted in agreements being signed specifying rest periods of as long as 20 minutes in the hour.

Yet, the general progress of offices towards new systems has not been halted by unions — in the way, for example, the print unions have been able to halt the introduction of computer systems which by-passed their members in newspapers.

While this progress has been slow, most agree that it has been reluctance to invest in the new systems, rather than simple union or employee obstruction (though the latter may play a part in the former), which is the root cause.

## Reaction

The unions' reaction has been conditioned by a general appreciation that while the automation of office (and other) tasks will cause a loss of work, a failure to do so will have even worse consequences.

This appreciation is, naturally, not shared by all union members, especially those on the sharp end of what is, or appears to be, a clear case of "technological redundancy." It will clearly be largely absent in those sectors which face little or no competition, as in local government. It is far from Japanese in its enthusiasm. Yet, there is enough experience to show that European workers will embrace new systems where they enhance the work environment, where they result in an expansion of services and/or where they must be introduced if the company is to remain competitive. Where they are undertaken only to reduce labour, there will often be resistance. What else can be expected?

"P. de Benedetti, managing director of Olivetti, in 'The Impact of Electronic Technology in the Office' at the Financial Times Conference, 'Tomorrow in World Electronics,' London, March 21/22, 1979.



## OFFICE EQUIPMENT XV

## Significant demand for higher standards

## OFFICE BUILDINGS

DYAN SUDJIK

WHATEVER EVENTUALLY does get built on the Green Giant site next to the Vauxhall Bridge, the office has already demonstrated a significant shift in public attitudes toward office design.

For the first time, an anti-development lobby was able to mount a campaign based on technological issues.

Large-scale offices in city centres will soon be obsolete, thanks to technological advances, argued Mr. Stuart Holland, Southwark's MP. Personal computer terminals will allow managers to work from home, or at least in dispersed offices. And word processors will eventually mean paper-free offices, putting large numbers of secretarial staff out of a job, and raising the spectre of hundreds of empty Centre Points.

In the event, the debate was inconclusive. The Environment Secretary, Mr. Michael Heseltine, vetoed the Green Giant, simply because it was too big.

Given the present social system, it seems unlikely that many people would voluntarily opt to work from home. And so far the only buildings to have become redundant at an uncomfortably rapid rate are the big computer halls, built in the late sixties. The latest generation of computers is much smaller and needs far less air conditioning than its predecessors. But even if Mr. Holland overstated the case, his argument does highlight the importance of looking at the long-term consequences of office design.

There are, in fact, three different time-scales involved. The longest is the life of the building itself—at least 60 years. The shortest is the period of a few weeks over which changes to furniture and equipment layouts are needed. Somewhere between the two is the life of the partitioning between departments—around a couple of years.

## Consequences

Apparently trivial decisions over the choice of material for the shell can have far-reaching consequences for the running costs of the building. But it is only recently, with the evidence of the disastrous failures of the 1960s, that long-term performance has become an issue. A brief energy glut allowed architects to design buildings with all-glass walls and poorly insulated roofs that have now turned into gas guzzlers on a massive scale—but which unfortunately show no sign of rusting away.

The form and shape of the building is just as important for energy efficiency as the choice of materials. Deep-plan buildings lose less energy because they have a proportionately smaller area of exposed walls for heat to "leak" away. But, equally, they need more power to operate artificial lights throughout the day. The trick is to balance the two—but at the same time not lose sight of the aim of producing decent architecture in the midst of juggling conflicting technical requirements.

It is worth remembering that the point about Green Giant



Caston House, the Department of Employment's new building, next to the Central Hall, Westminster, shows what can be achieved in terms of environmental quality

which caused the loudest outcry was the sheer mediocrity of the design. Public expectations of new developments, particularly in sensitive city centre areas, have grown more demanding over the years in response to a deluge of simple minded anonymous blocks. And developers are finding for the first time that the market has shifted against them.

To build offices that can be let quickly now means providing higher environmental standards, and that includes designs that look better.

Interior layouts are shifting away from open planning. After two decades in which architects and office planners have tried to foist the *biro-landscape*, or office landscape, approach on largely reluctant occupants, a series of studies has shown that offices without walls are not the panacea that the enthusiasts once claimed. Open plan can work in certain circumstances and for particular types of people, journalists, for one, but only if used with skill and careful planning. If used in a debased, cost-saving version the system can become chaotic.

Taken together, the result of all these conflicting pressures has been a reaction against the simple rectangular slab blocks of the 1960s, when buildings were clad in curtain wall glazing and set in windswept plazas. For both visual and energy-saving reasons, facades and plans are tending to be much more irregular than they were, with deep overhangs to put windows in shade and stop the greenhouse effects that plague many of the glass-walled buildings of the 1960s.

Arup Associates' new headquarters for the Central Electricity Generating Board, outside Bristol, demonstrates the approach applied to a building that was designed from the start to be a text book exercise in energy conservation.

Both interior layout and shape minimise energy use and help create a civilised workplace. It is a long, low building, divided into a series of interconnected pavilions which have deeply overhanging roofs that come three feet clear of the windows and put them in permanent shade. The pavilion form means nobody's desk is far from a window, making it possible to rely on daylight to provide most of the background light.

There is also a background level of fluorescent light, switched on automatically on dark overcast days, as well as individually controlled desk lights. This is an arrangement that reduces both the direct energy consumption of the lighting system, as well as the load on the air conditioning system needed to dissipate the waste heat from the light fittings.

But perhaps the most ingenious feature of the building is the network of holes cast into the concrete floor slabs. During the summer, cool night air is allowed to circulate through them, which reduces the build up of heat during the following day, and hence the air conditioning load.

The Department of Employment's new building next to the Central Hall, Westminster, shows what can be achieved from a speculative development, in terms of environmental quality.

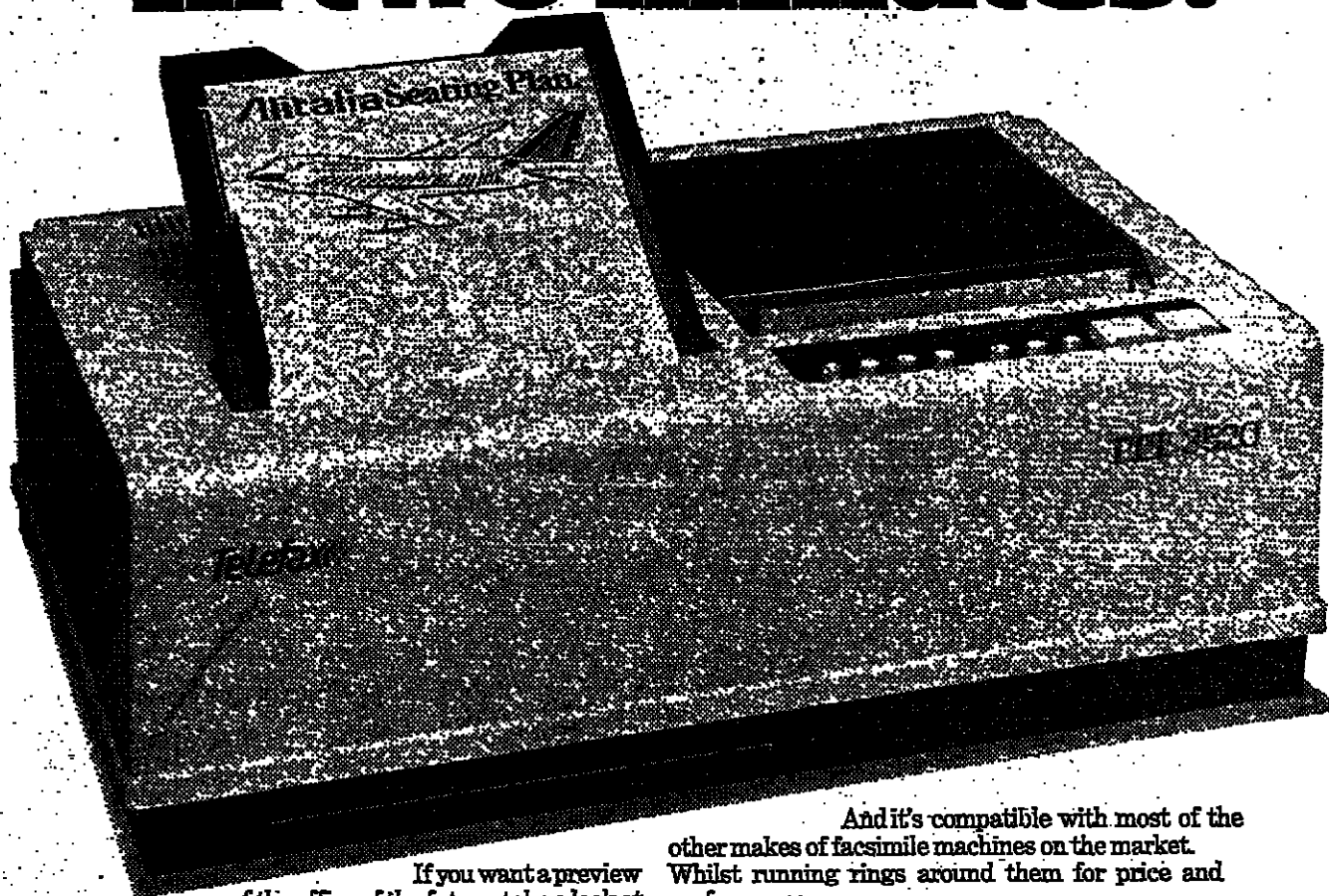
The architects, Chapman Taylor and Partners, have produced a romantic-looking structure, complete with battlements and oriel windows, that manages to look at home in its distinguished surroundings. And thanks to the thick masonry walls, pierced by only the occasional window, heating bills are kept down, too.

There is still room for the purist approach, but it requires skill and care to make it work properly. Richard Rogers, for example, is designing the new Lloyds building in the City, using a specially developed triple glazed cladding that will have the insulating characteristics of a brick wall.

Partly because of the growing complexity of office machinery, and partly because of a trend toward more democratic looking workplaces, the once-rigid boundaries between industrial and office interiors are being blurred. Shop floors are now being finished to higher standards with better quality lighting, air conditioning and even carpeted floors. In offices with work station layouts now becoming increasingly common, thanks to the proliferation of computer terminal display screens, the "production line look" is making an appearance.

There are now so many power cables snaking round offices that hiding them away tidily without interfering with flexibility has become a major preoccupation. Floor and ceiling distribution networks are common place, and now specially design partitioning systems and even desks with built in power channels are being introduced.

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## CATERING MACHINES

DAVID CHURCHILL

THE PROVISION of food and drink in offices is an important part of maintaining office productivity. But it can also be very expensive for the company which has to maintain full-time catering staff.

Thus, as the recession begins to bite even more deeply into companies, so an increasing number are looking at ways to reduce costs of catering. And this often means switching to automatic vending machines for both hot drinks and quick snacks.

Moreover, the increasing use of flexible working hour systems in offices has made it even more essential to have a catering facility which can meet the differing requirements of staff at all times of the day and night.

Vending is essentially a three-part industry: the dispensing of hot beverages such as tea, coffee, hot chocolate, or cold drinks; snacks, such as chocolate bars, potato crisps, and other pre-packed items; and hot meals.

Trade sources estimate that the total number of drinks of all kinds that were sold through

vending machines reached over 4bn last year, representing real growth of about a third since the beginning of the 1970s.

In terms of volume growth and sheer machine complexity, the vending industry has come a long way since World War Two, when the modern-style food vending systems were born. It became clear that the real future of the vending industry lay in servicing the needs of the factory and office worker. The hot coffee machine, an almost indispensable facet of American life, made its first appearance in the U.S. during 1947.

The vending industry in the UK has also come a long way from the early days of the 1950s and 1960s, when some "get-rich-quick" operators gave vending a very bad image.

By the end of the 1980s, for example, only about a fifth of UK installations were in the hands of specialist operators, compared with some 90 to 95 per cent in the U.S. It was no surprise, therefore, that consumer satisfaction with vending machines in the UK was low. This disenchantment was increased by the unreliable nature of most mechanical coin-operated mechanisms. Sophisticated developments, such as electronic controls, have enhanced the reliability of some machines.

The major growth area in vending is in offices and build-

ings, such as hospitals, which are open all night. Food-dispensing machines are proving increasingly popular, helped by the enormous escalation of costs of traditional catering, particularly for labour and such foods as vegetables.

## Working hours

With the increase in flexible working hours, overtime and shift working, there is a real need to provide a back-up food and drinks system to the conventional, manual, and frequently expensive cafeteria. In many cases, however, the use of automatic dispensing machines is clearly designed to supplement other catering services, such as the traditional works canteen. But the development of the microwave oven has proved a major step forward in providing hot meals where no suitable alternative is available.

As a result, new equipment is now being brought into Britain in increasing quantities to enable the consumer to buy hot hand snacks, hot "fork" snacks, and hot "ring-pull" canned products.

Sales of smaller drink-vending machines are rising, according to trade sources, and are estimated to be around 5,000 a year.

One new development in the drinks sector of the vending market is the growth of "in-cup" systems. This involves pre-

measuring drink ingredients into each cup before the products leave the factory, so that the machine itself merely collects the cup and adds hot or cold water. The cup design for this system has a "lock ridge" which seals the cups into interlocking stacks for simple insertion into the machine.

Oddly enough, although this ingenious idea originated in the U.S., it made little progress until it was introduced into Britain and developed by a number of manufacturers, including the Klix division of Mars. The UK vending industry is, however, still largely dependent on imported machinery to meet its requirements.

It is not only in office catering, however, that vending plays an important part. Many offices now have cigarette vending machines; in total, cigarette sales through vending machines top £100m.

Other developments in the market, now being tried by a few offices, are extensive "automatic shops," selling a wide range of products from tights to flowers, which enable office workers to save time by shopping at work.

Some vending machine operators would go so far as to predict that, by the end of the decade, automatic shopping in offices may become as accepted a part of office life as the coffee machine is today.

هكمانز الأهل



## OFFICE EQUIPMENT XVI

## Demand for more flexibility in office design

## DESIGN

MICHAEL WILTSHIRE

TWENTY YEARS ago, the German concept of *bürolandschaft* — office landscaping — was being heralded as a brilliant solution to office design problems. The impact of the formula was considerable, but planners now look for less regimented, more personalised solutions.

There is much talk today, of the word processor and the outcome of rapid developments in business technology. But, for all the progress, many British offices "are still appalling places to work in," according to one leading designer. While more than a third of Britain's

workforce are employed in offices, the much-discussed "office of the future" may yet seem a very long way off.

The introduction of new technology is often a striking contrast to the uneconomic interior design of many UK offices where, it is claimed, 30 to 40 per cent of space is frequently wasted.

"Badly designed offices lead to poor communications, inefficient workflow and money wasted on rent and rates," comments a spokesman of Space Planning Services (SPS), one of the UK's leading independent planning consultancies.

Inefficient design also results in undue stress on management and staff who spend as much as a third of their working lives in offices.

In Germany and Scandinavia, custom-built office buildings have tended to be the rule, but

in Britain, where there was a rush of speculative office building in the 1960s, the outcome of the building boom has "adversely affected the working lives of millions of office workers and hindered the operational efficiency of the companies which employed them," comments Mr. Roger Henderson, managing director of SPS.

While many buildings of the 1950s are now ripe for refurbishment, many older buildings have more scope for interior adaptation and improvement than Britain's speculatively designed match-box-shaped offices of the 50s and 60s which, he says, are notoriously inflexible. All this adds up to a considerable challenge to today's office planners, architects and for the 15 or so independent design consultancies in the UK.

The weaknesses of the

*bürolandschaft* formula are now obvious — but the system, invented by the Schelle brothers in the late 50s, seemed at the time to be a revelation of the office of the future, comments Mr. Francis Duffy, a partner of Duffy Eley Giffone Worthington (DEGW), of London.

The German offices of the early 60s set the trend with their sense of space and order, carpeting, continuous ceilings, new-style furniture and plants. But, in retrospect, the problem with office landscaping was that a mere package design solution must be wrong — "it cannot be sensitive to variation in organisational form," comments Mr. Duffy.

Implicit in *bürolandschaft* is the idea that all organisations are (or ought to be) the same, with an equal emphasis on communications, lack of hierarchy, flexibility and team spirit. This is obviously false, says Mr. Duffy.

"Different kinds of business are structured in different ways; they have different technologies and values, and above all, different traditions in accommodating themselves in offices."

## Variations

There is a world of difference, he emphasises, between insurance and law, between a sales office and a research establishment. No one type of office layout or even office building shell can accommodate them all. Worse still, the enthusiasm for the *bürolandschaft* package has led to a vast number of expensive and highly inflexible building shells which are far too "deep" to be useful.

The fact that these buildings are full of super-flexible furniture must be an increasingly small consolation to their owners, since the labour of maintaining these layouts is now very apparent, he adds.

With skill and dedication, *bürolandschaft* can be controlled; without these resources, densities rise, circulation clogs and the quality of the environment declines. Nothing is more fragile than an open-plan office layout, he suggests.

The positive consequences of the system are less clear but more far reaching — "office landscaping has taught Europeans the American lesson that office planning should be taken seriously, that planning and talking to the user are vital, that the user is prior to the design

of the building shell, that buildings can be made to reflect organisational requirements."

Certainly, office landscaping has also stimulated furniture design; manufacturers now see themselves as selling "systems" of integrated components to accommodate all office tasks.

Office work, organisation, building, space management, are all changing—but no single formula, even one so brilliantly conceived as *bürolandschaft*, can possibly cope with the wide diversity of present conditions, let alone those of the future, says Mr. Duffy.

"To go back to the dumb partitioned offices, to the low level of thinking about office design which was tolerated in Britain in the early 60s and which led to the miserable stock of speculative and custom-built offices which we see around, would be a disaster. We must be able to do better than that."

Office Planning Consultants, of London, says that since the 60s, managements have been growing aware of the sheer economics of a streamlined and effective office administration—that it is as essential to maximum profitability as an efficient production line in a factory.

OPC suggests that the term "interior designer" must not be confused with the "interior decorator." In countries outside the UK, he is accorded the proper title of "interior architect," since the subject extends far beyond the mere consideration of aesthetics.

One of the main problems facing office planners in the 1980s is the integration of new technology within an existing building with all its in-built deficiencies and constraints. Each company has different needs and planning solutions must be individually tailored to meet those requirements.

## Complex problems

Lighting, for example, can pose complex problems, where a large proportion of time is spent with VDUs. The introduction of terminals and VDUs into a general office also means special facilities for distributing data cables.

Today's requirements will almost certainly not be tomorrow's and the office layout should be capable of being changed readily and inexpensively, says Mr. Henderson of SPS. The one certainty about the future is its unpredictability, he adds.



A general office area at Whitbread London's new headquarters in Luton where Space Planning Services were responsible for planning and interior design. The VDUs are linked to the computer suite in the building and are used by payroll and other accountancy functions.

There is a strong emphasis nowadays on space management — "there is a continuing space planning process going on after a client has moved into a building," says Mr. John Worthington of DEGW, who has been much impressed by planning concepts in the U.S. "The key role of the space planner is how he transfers his concept of how best to use the space... one of the things we have set up are training sessions for our clients."

Nowadays, the trend is for a "mix" of open-plan and cellular design, with a growing demand for "personal space."

"There is a greater recognition of the individuality of the office workers," says Mr. Peter Liley, design director of the Heal group in London. "Everyone needs his or her own defensible territory, a personalised space where he or she can 'see' an imaginary line on the floor. And anyone who steps over that boundary is a guest, or an intruder. Although the office plan may be quite 'open' each worker's identity is being expressed within the area in which he works."

Although some of the latest office furniture is becoming highly sophisticated — particularly, German and U.S. products

—Mr. Liley believes that, in Britain, "the game will eventually go to the company that can produce a very simple, flexible and dignified system for integrated work surfaces and storage units."

Any office furniture manufacturer wanting to sell in Europe must first consider the increasingly high standards of the lucrative German market, comments Mr. D. G. Davenport, marketing director of the newly-reformed Flexform company, manufacturers of filing and storage systems.

"In Germany, for example, you can't sell a desk that doesn't have soft, rounded drawer fronts; no angular corners. Such standards are not true in the UK, yet."

"The Italians are wild on design—perhaps a bit 'off' in function—but for visual appearance, they're absolutely stunning." In Sweden, legislation was established in 1977 whereby the workforce has to become involved in aspects of office planning, through workers' councils. In Britain there is an increasing awareness among the white-collar unions not only of the impact of new technology, but of the importance of improvements in the office environment in general.



Mr. Roger Henderson, managing director of Space Planning Services, of London, says that many companies are faced with problems created by 'over-crowding', inefficient use of space, and the unsatisfactory outcome of stop-gap measures, taken somewhat haphazardly over a period of time. Such firms recognise the need to achieve a long-term solution without fully appreciating the alternative paths which may be open to them, he says.



A RANGE of Dutch office "systems furniture," which contains tables, drawer blocks, cabinets, filing systems and conference units all of different shapes and heights, but which interlock with complete precision to form highly flexible formations, is now available in the UK to "help increase office efficiency by up to 30 per cent," according to

the distributors. OEM of London. Called Van Blerk Systems Furniture, the system is claimed to provide every member of staff with a "work station" that suits perfectly the workload of its occupant, his or her function in the office system, and the need for a "sense of privacy" and independence, so essential for a contented staff. The distributors

of the system claim that the advantages of systems furniture over traditionally based office configurations are comprehensive, including the doubling of a workforce in the same area, thereby maximising space available; the lowering of energy costs such as heating and lighting, reduction in time wasted in file retrieval, and the reduction in staff turnover.

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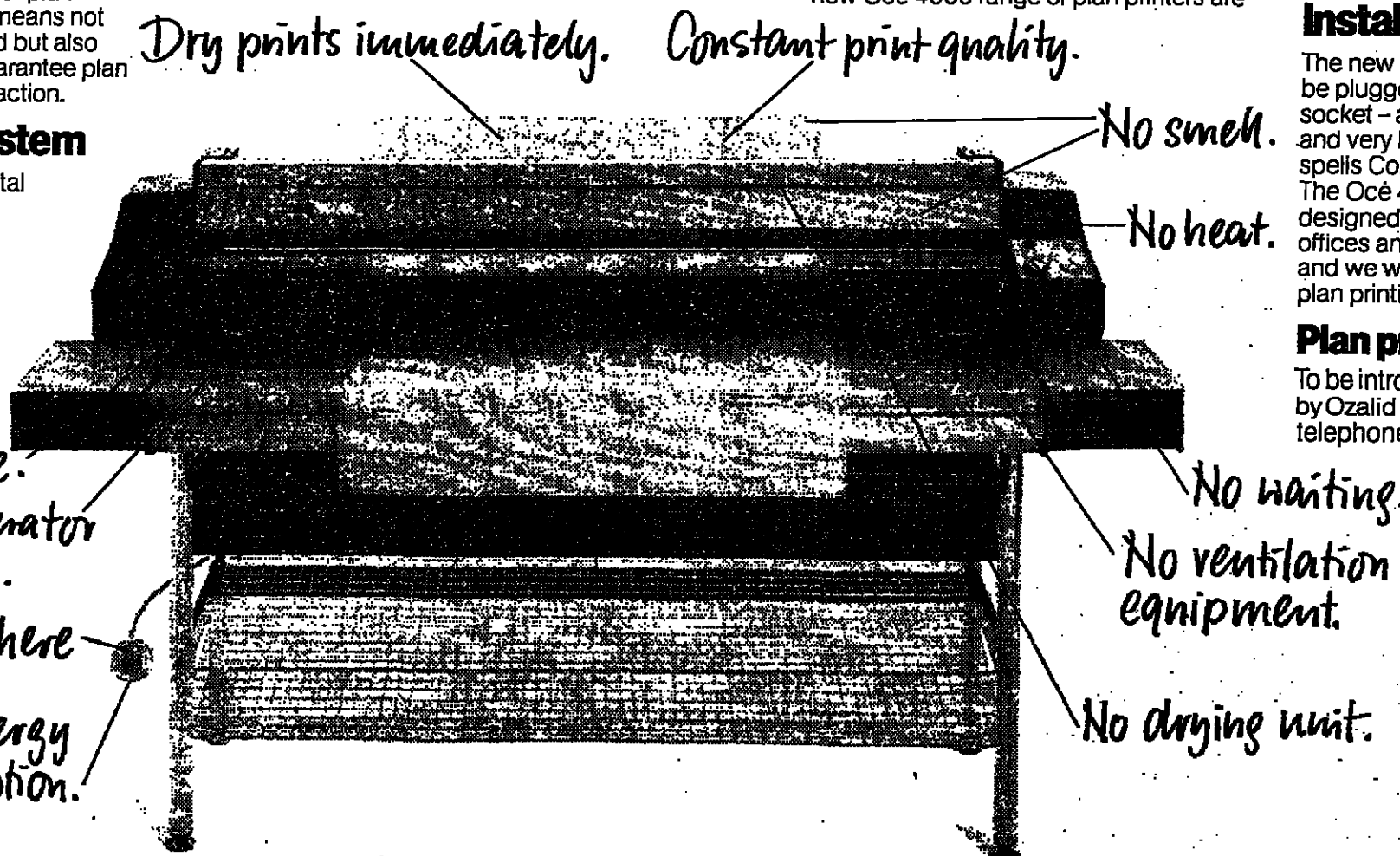
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# Why the Left is gaining ground

MR. RICHARD CRAWSHAW, who appears in the Guinness Book of Records as a long-distance walker and in the House of Commons as a deputy speaker, is by all accounts a nice man, an active constituency MP and a proven vote-winner. Yet he will almost certainly be dropped as an official Labour candidate in Liverpool at the next general election.

In the 18 years he has held the Liverpool seat of Toxteth, it has changed from a marginal Tory/Labour seat to a safe Labour one which he retained at the last election with a comfortable 22.7 per cent majority. The swing against Labour there, at 2.1 per cent, was well below the 5.2 per cent national average. But even his staunchest supporters say he has "not a cat's chance in hell" of being re-elected for any of the re-defined Liverpool seats to be fought in the next election.

Similar doubts hang over two of his fellow Labour MPs in Liverpool, Mr. James Dunn at Kirkdale and Mr. Eric Ogden at West Derby, who have also held their seats for 16 years with similarly comfortable majorities at the last election.

The phenomenon is not confined to Liverpool. Following last month's Labour Conference vote for automatic reselection of parliamentary candidates, many hitherto comfortable MPs are beginning to question the future of their constituencies, to examine their relationships with their constituency parties and to ask what on earth is happening to the Labour Party in the constituencies.

The first reaction has been a sense of charges that the Labour Party is being seized by small, extreme left-wing groups. They have entrenched themselves in moribund constituency parties, the accusations run, and are now pushing for real power. This is considered sinister

because they often operate in seats which the party cannot hope to win, have no Parliamentary representatives and are therefore "unrepresentative" of Labour voters.

A closer look suggests that things are not quite so simple. The decisions taken at the last party conference indicate that the Left has greater momentum than the Right. But the extreme Left cannot be said to control or even dominate the party—where it is strong, its strength derives partly from a high degree of activity and organisation, but equally from the fact that most active party members do not object.

More important, they appear to be doing nothing dishonest or unconstitutional: there is nothing to stop the right wing from adopting the same tactics, but they are not doing so.

The Blackpool conference was, for the Left, a triumphant climax to several months of frenetic activity in the constituencies, and among the unions, winning support for their resolutions and getting supporters sent as delegates to Blackpool. A host of left wing groups, including the long-established Campaign for Labour Party Democracy, the Labour Co-ordinating Committee, Clause IV, the Institute for Workers' Control, Independent Labour Publications and the Militant Tendency, all set aside their differences to form the Rank and File Mobilising Committee. These groups have been hastily convened two weeks before the party's Wembley conference on May 31, to ensure maximum impact for the Left.

They did not have things all their own way at Blackpool. They were defeated on the crucial issue of whether control over the writing of the election manifesto; a resolution explicitly rejecting any form of incomes policy was, although carried, somewhat confused by an amendment explicitly pro-



This is the first of a series of articles on what is happening to the Labour Party. Tomorrow Christian Tyler will discuss how these developments are seen by the trade unions. Articles about individual constituencies will appear in the next few days.

viding for one; and two unequivocal resolutions calling for "nationalisation of the top 200 monopolies which control 85 per cent of the economy, with compensation paid only on the basis of proven need" (some times referred to as the mating call of the Trotskyist Militant Tendency) were unequivocally thrown out. However, they won significant victories against considerable opposition on unilateral nuclear disarmament, banning sales of council houses, withdrawal from the EEC, reselection of MPs, and a partial victory on election of the party leader.

Reacting to their defeat at the hands of the Left, right wing MPs focused attention on the emergence of the Militant Tendency, which had been thrown into the limelight a few months earlier by the publication of Lord Overhill's report on Trotskyist infiltration in the party.

The Militants first emerged in the early '60s, an offshoot of the now defunct Revolutionary Communist Party, and set up

their own newspaper, Militant. The paper still provides a focal point for their activities and is sold at most party gatherings, as well as on streets, shop floors, universities and polytechnics, with a national circulation currently estimated at around 10,000 a week.

Active supporters of Militant (in accordance with Labour Party rules they have no official membership) include a large number of students and Young Socialists, but also a lot of trade unionists—clerical workers, printers, bakers, boiler-makers and even local government officers. They make no bones about their political beliefs, which rarely depart from the writings of Lenin, Marx and Trotsky, whom they quote frequently and at length, nor about their aim to make Britain a fully socialist state with the economy, including all international trade, firmly under workers' control.

That is their goal and they are extremely reluctant to compromise, often to the irritation of the other Labour left-wingers

with whom, for the moment, they are content to co-operate. However, they admit quite cheerfully that they are not going to succeed tomorrow, in the next five years, or possibly for many years to come and insist the change must and will come about by democratic means, largely due to an "inevitable" collapse of the capitalist system. Further, many of them say that a socialist Britain could not survive if the rest of the industrialised West remained capitalist. It would either be defeated or become Stalinist which in their view amounts to almost the same thing.

How then, with so little to promise in the way of concrete results in the immediate future, do they manage to attract and channel so much enthusiasm, dedication and hard work to and in the Labour Party? Peter Taaffe, editor of Militant since 1964, estimates the number of active Militant supporters in Britain at 2,000, with many more less actively involved supporters.

Militants and many non-Militant party members dismiss as nonsense right-wing claims that they "control" 100 constituency parties, but they do claim a strong presence in at least 80. They are particularly active in Liverpool, London and Brighton; have around 50 full-time paid workers and a slightly smaller number of offices throughout the country. Contributions to the paper's "fighting fund" average around £2,000 a week and they are reported to have raised £500 in one day at the Blackpool conference. Although no MP is an active supporter, a relatively small but growing number of local government councillors, union and party officials are.

In some areas, the Militants have directed their main efforts to getting supporters elected to local government councils and committees. They have succeeded in the London borough of Lambeth and to a lesser extent in Islington, Hackney, Hillingdon, Brent and Lewisham.

The reason for Militant's

success is partly that they are the group most actively involved at grass-roots level within the party as a whole. They are regular attenders of party meetings and hold special meetings for Militant readers and sellers. "They're a breath of fresh air," according to a Liverpool councillor, a middle-aged member of the old unionist Left who welcomes Militant while disagreeing strongly with some of their views.

Perhaps a greater part of the appeal of the Militants lies in widespread disillusion within the party over the Wilson and Callaghan Governments—their alleged failure even when they had strong Parliamentary majorities to implement Labour policies on health, social services, race relations and comprehensive education, and above all, over the 5 per cent pay policy introduced in the last year of the Labour Government. In this climate, calls for tighter constituency control over MPs, particularly over the former Ministers of these Governments, are bound to flourish.

With the party in opposition and no prospect yet of an early election, there is little real pressure on Right and Left to knuckle down in the interests of party solidarity. Moreover, the Left, though on the upswing, is still so far from attaining its goals that the many groups which make up the present Broad Left coalition are under little pressure to clarify their not insignificant differences.

The active Left in the party draws together a wide range of trends and traditions—the old unionist Left, the "new" Left, the campaigners for nuclear disarmament, some Trotskyites (many of them, considered radical 10 years ago, are now fairly centrist) the Trotskyists. Within this broad group, the Militants have undoubtedly played an active part but their importance and influence has been exaggerated.

Their main effect so far has been to shake the party up a bit. There are already signs of counter-reaction from the Right, among groups like the Campaign for Labour Victory. But even on the Left, the Militants remain somewhat isolated. They are perhaps the Mormons of the Labour Party, "nice, terribly sincere" according to one London left-winger, "but a bit boring, the wrong class for some people and, you know, a bit odd." The Militants themselves concede that they do not have broad electoral appeal. Although Militants stood for the party in three seats at the last election, none of these was winnable and their chances of picking up more than one or two winnable seats at the next election are slim.

They associate themselves to some extent with active left-wingers in the Parliamentary Party, such as Dennis Skinner, Tony Benn, Eric Heffer and Michael Foot, inviting them to speak at meetings or write for Militant. Despite a certain cynicism about MPs, they would probably find Mr. Benn less unacceptable as leader than any other candidate. But they have few illusions about the gap between them and the rest of the Left and know that when the time comes to shake hands, they may be thanked for their hard work and then unceremoniously set aside as the others race off to grab the party's centre.

The MPs, for their part, are careful to draw certain distinctions. Mr. Meacher, MP for Oldham West and one of the most active left-wingers, probably speaks for many on the Parliamentary Left when he says "I don't believe socialism means nationalisation. The world has changed since Marx. To talk of nationalising the top 200 companies is ludicrous and if Tony Benn were leader, it wouldn't happen."

## Europe's steel imports

From Mr. F. Gillett.  
Sir,—Your editorial, "An open crisis in steel" (October 29) has repeated what I, as a steel trader, have been saying for some time. The steel industry of the developed world is a main factor in the EEC's problem. This is not so.

When the German or French steelmakers complain that imports take 30 per cent to 40 per cent of their respective home markets, they are talking mainly about each other's exports (and the exports of other EEC partners). Imports from third world countries have played only a minor part in the EEC steel crisis.

Steel imported into the EEC from third world countries accounts for only about 9 per cent of the total 110m-tonne steel consumption in the EEC market. Of these imports, about two-fifths come from other Western European countries, such as Austria, Spain and Sweden; another quarter comes from the USSR and Eastern Europe; and most of the rest comes from Japan (mainly) and Australia, Canada and South Africa. The rising steel industries of countries like Brazil, Mexico and South Korea are supplying only about 3 per cent of EEC's imports from third world countries and that is about one-quarter of 1 per cent of EEC's steel consumption.

The principal effect of steel imports from outside the EEC has been to upset prices on the EEC market from time to time. When the market is sensitive—as it normally is these days—news of only a few thousand tonnes of EEC's European steel on offer at low prices can start buyers looking for fresh rebates off the prices of their main EEC suppliers. There are bilateral agreements between EEC and third world countries which are designed to limit such destabilising effect, although they are not proving entirely successful. Imports of steel from third world countries are, in any case, not the cause of the fragile state of the EEC market.

On the export side the developing countries, together with the Communist bloc, account for over 50 per cent of EEC's steel exports, and this proportion has tended to grow during the 1970s. If the historical trend continues, and a study of the situation suggests that it will, then the rising steel production of newly industrialising countries will barely keep pace with their rising steel consumption. Their steel imports will therefore tend to grow, rather than decline, at least for the next ten years.

First things first: the EEC steel industry has to put its own house in order. It has also, like the Japanese industry, to learn to live with a protectionist U.S. Rising steel production in the developing world is not yet a major problem for the EEC.

F. Gillett.  
F. R. Gillett, Blackes Road, Wargrave-on-Thames, Berks.

## Godalming was first!

From Councillor B. Souter.  
Sir,—J. E. Harris (October 30) will doubtless be pleased to hear that Godalming is indeed to celebrate its electrical centenary in September, 1981. Plans are well advanced in conjunction with the Southern Electricity Board and the Electricity Council for a week of celebrations from September 19 to 26. There will be both local and national events and Mr. Harris and other interested parties will be most welcome to attend.

B. Souter (Councillor).  
Godalming Electricity Centenary Celebrations Committee.  
Charterhouse.  
Godalming, Surrey.

## Overdraft facilities

From Mr. P. Radcliffe.  
Sir,—I was interested to read Anthony Harris's article (October 24) titled "Farce on Black Wednesday." Although I agreed

with most of what he wrote, I would like to take him to his point concerning corporate treasurers and "round-tripping."

The banks allow industrial companies significant freedom to finance their working capital requirements through flexible overdraft facilities. In these particularly difficult times, with little sign of recovery in the immediate future, it is important that the banks and industry have mutual trust and confidence in each other and that the facilities made available are not abused. By abused I refer in particular to "round-tripping."

It may be argued that it is the responsibility of a company to take advantage of all reasonable opportunities available to increase its value to the benefit of the shareholders: round-tripping relations with the bank may not in the long term, be in their interest.

I speak not only for myself but also for a number of other treasurers of major companies in this country who have neither unusually "formidable" bankers nor "wise" managers, but who understand the wider implications and do not "round-trip" their way out of the need for banks to raise their base rates to counteract these manoeuvres and add to the industry's already heavy burden.

P. Radcliffe.  
Micklemore Cottage,  
Styppell End,  
Horseshoe,  
Cambridgeshire.

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Cambridgeshire.

## Godalming was first!

From Councillor B. Souter.  
Sir,—J. E. Harris (October 30) will doubtless be pleased to hear that Godalming is indeed to celebrate its electrical centenary in September, 1981. Plans are well advanced in conjunction with the Southern Electricity Board and the Electricity Council for a week of celebrations from September 19 to 26. There will be both local and national events and Mr. Harris and other interested parties will be most welcome to attend.

B. Souter (Councillor).  
Godalming Electricity Centenary Celebrations Committee.  
Charterhouse.  
Godalming, Surrey.

## Power from the sea

From the Chief Engineer, Civil Engineering Division John Leung Construction.  
Sir,—We refer to the article of October 27 on the subject of power from the sea. Elaine Williams quoted figures for the cost of power generated as 20p/kW.hr for Ducks and 30p/kW.hr for Sir Christopher Cockerell's rafts. We cannot speak for Sir Christopher, but having worked in close association with Stephen Salter for the last two years on the Edinburgh-Scapa-Lewis wave energy device, we can speak for Ducks. The figures quoted by Elaine Williams are in fact for an earlier power take-off system. A year ago when the annual report was prepared, the estimated range was 5p to 8p/kW.

## Letters to the Editor

hr and there is every prospect of reducing this when the current wide tank testing on spines has been completed.

The dramatic reduction in costs was mainly due to three breakthroughs: a completely sealed power take-off system based on gyroscopically mounted flywheels and an ability to generate synchronous AC suitable for direct connection to the grid, plus a great reduction in the length of cable involved in such connections.

We would point out that the independent consulting engineer appointed by the Department of Energy has produced a confidential report which does not disagree with the figures we produced.

P. S. Nundy.  
John Leung Construction.  
Park Street,  
N.W.7.

## Uncollectable moneys

From the Managing Director, Tax File.  
Sir,—Now the Committee of Public Accounts has identified a likely loss of more than £2bn in tax evasion (October 30), an independent committee should investigate the wisdom of trying to collect this money.

Tax evaders win little sympathy among most honest taxpayers and the fairness of collection is beyond question. Would taking this money out of the economy, however, be socially desirable? This finance will be revolving in the private sector, helping to sustain it and providing vital employment. If Government collects and does not plough this tax back into the private sector, serious damage could be done to an already hard-hit area.

As much of the money passes privately in small amounts between individuals, tax collection is nearly impossible in most instances.

The means of attempted enforcement—a substantial increase in the number of tax inspectors—would not only add to the cost of the civil service, but could lead to methods of investigation unacceptable to all but the extremes in our society.

Dennis J. Fowle.  
Tax File.  
4 Valentine Place, SE1.

## Dockyard's progress

From Commander F. Elvy, RN (Retd.).  
Sir,—While I admire Mr. Cutler's heartwarming loyal defence of the Royal Navy and the Dockyards (October 27) I must dispute his facts.

He is certainly under a misapprehension if he believes that wages and salaries in Devonport Dockyard are low. On the contrary, they are among the highest in the Plymouth area.

The new nuclear submarine refitting complex to which he refers and the only slightly older frigate complex, with its three covered graving docks, provide Devonport Dockyard with splendid modern facilities. It is seriously to be doubted, however, whether the increases in productivity being achieved in any way justify their capital cost.

On the other hand, when Mr. Cutler rises in defence of the

employment of naval officers in the Royal Dockyards, he has my wholehearted support. I only know of one member of the Royal Corps of Naval Constructors (now incorporating the former members of Royal Naval Engineering Service) who by any stretch of the imagination could be described as a qualified and competent professional weapons engineer.

What is not generally known, is the main campaign that a minority within the Institute of Professional Civil Servants has been waging against such employment of naval officers. Equally unknown, of course, is the chicken-livered response of the Dockyard department to that pressure.

As one who served in a reasonably senior managerial post within Devonport Dockyard for four years, may I congratulate your reporter, William Hall (October 21) upon the accuracy and perceptiveness of his article. The only error that I detected was his statement that "the Port Admiral has much more say than the general manager." In my experience that is no longer so.

My abiding impressions of my last four years service in "the yard" are of pride in the skills, talents and accomplishments of the men and women of Division 4, and of overwhelming frustration at the ineptitude of the generalities of the management and its helplessness in the face of incompatible directives it received from the Dockyard department.

(Commander) F. J. Elvy,  
RN (Retd.).  
The Old Rectory,  
Diptford, Devon.

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(Commander) F. J. Elvy,  
RN (Retd.).  
The Old Rectory,  
Diptford, Devon.

## Spending on housing

From Mr. R. Musgrave.  
Sir,—As secretary of a residents' association which is trying to prevent a local authority bulldozing some houses, I doubt that housing is Islington's biggest problem, as your article claims (October 28). Neither Islington nor any other local authority "needs" to spend vast sums on housing. The reason vast sums are involved is that there is no limit to the amount of other people's money that incompetent do-gooders like throwing away, and housing just happens to be their cause celebre at the moment.

Your description of housing as the "permanent slum area of British politics (Leader October 24), was very apt. I feel the main absurdity in this area, and the cause of so much wasted money, is the attempt to raise housing to uneconomically high standards. Houses are frequently demolished and replaced on the grounds of dampness despite the absence of any proven relationship between dampness and health. Houses are frequently demolished and replaced without bothering to look at their most important characteristic: the soundness of their basic structure.

If we scrapped and replaced all cars more than two years old, then the amount that would "need" to be spent on cars would be astronomical. Local government is often engaged in a similarly ludicrous operation in the area of housing.

R. S. Musgrave.  
24, Garden Avenue,  
Framcote, Leamington, Warwick.

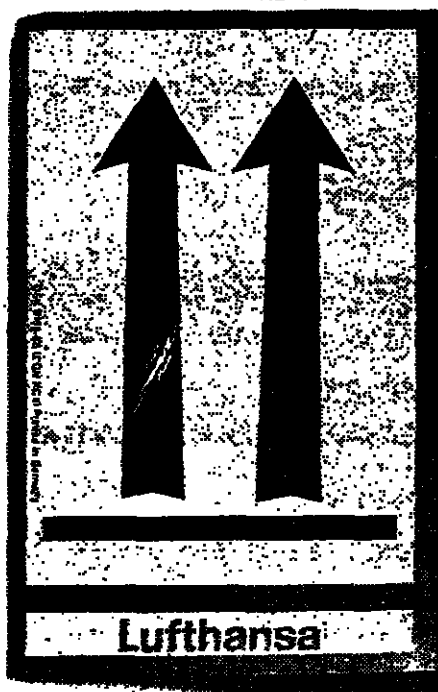
## Today's Events

**GENERAL**  
UK: Union leaders and senior shop stewards at BL meet in Coventry to assess support for proposed strike action on pay.  
One-day strike by National Union of Seamen over Cunard dispute.  
Agricultural workers' pay talks.  
Trustee Savings Bank, as member of Visa International, now issuing its own Visa sterling travellers cheques.  
British Airways offering half-price rates on Concorde flights to and from the U.S. for members of families accompanying a full-fare paying passenger.

**Pensioners' £1 Awayday**  
Anywhere day return rail ticket comes into operation for an experimental period.  
Mr. Norman St. John Stevas, Minister for Arts, gives Lord Alport Lecture, City University, Northampton Square, E.C.1, 6.15 pm.  
Overseas European Parliament in plenary session to discuss 1981 Community Budget, Luxembourg.  
Mr. David Howell, UK Energy Secretary, in Oslo for two-day talks on North Sea oil with Mr.

**Arvid Johanson, Norway's newly-appointed Minister of Petroleum and Energy.**  
Two day Financial Times conference on investment in Kuala Lumpur.  
Trial of Mr. Edgar Tekere, Zimbabwe Cabinet Minister, accused with seven bodyguards of murdering a white farmer.  
Italian companies to pay 1 per cent less from to-day for money borrowed to finance export operations.

**PARLIAMENTARY BUSINESS**  
House of Commons: Motion on EEC document on aids for milk and pig production. Motion on the National Dock Labour Board (Increase of Loans Limit) Order. Motions relating to Consumer Credit (Advertisements) and (Quotations) (Amendment) Regulations.  
House of Lords: Broadcasting Bill, report.  
**OFFICIAL STATISTICS**  
Building Society house prices and mortgage statistics (third quarter).  
**COMPANY MEETINGS**  
See Week's Financial Diary on Page 25.



**Our airfreight business continues to go up because our damage-quota continues to stay down.**

 **Lufthansa**

فكان من الأفضل



## Companies and Markets

## UK COMPANY NEWS

## Dunlop Zimbabwe offer for sale

BY OUR SALISBURY CORRESPONDENT

The Zim\$8m (£5.8m) offer for sale this week by Dunlop Zimbabwe is by far the biggest in the history of the Zimbabwe Stock Exchange and the second public issue since independence in April this year.

The group's British parent, Dunlop Holdings, is offering to sell 5m of its shares—20.8 per cent of the issued capital of 24m shares—at 180 cents each. The issuing house is Standard Merchant Bank, a subsidiary of the Standard Chartered Bank.

DZ is certainly not going public because it needs the cash as its balance sheet position in mid-1980 shows net current assets in excess of \$7.4m (£4.8m) and net assets of more than \$19m (£12.3m).

The purpose of the issue Dunlop says is to enable the Zimbabwe public to identify more closely with Dunlop Zimbabwe and to obtain a listing for the company's shares on the Zimbabwe Stock Exchange.

In addition it will enable Dunlop to establish a share participation scheme for its 1,300 employees with the group planning to hold 900,000 shares (about 3.75 per cent of the equity) in trust for employees. This means that after the issue almost 35 per cent of the capital will be held inside Zimbabwe.

The basic motivation for the issue is therefore political rather

## BOARD MEETINGS

The following companies have notified their shareholders of board meetings to be held for the purpose of considering dividends. Official indications are not available as to whether dividends are interim or final and the sub-divisions shown below are based mainly on last year's timetable.

**TODAY**  
Inverness—Graig Shipping, P. Panto, Roper.  
Final—Berry Trust, Majedra Investments.

**FUTURE DATES**  
Interim—Continental and Industrial Tst. Nov. 4  
De Vere Hotels & Restaurants Nov. 7

## FENDAS AGRICULTURAL INDUSTRIES

Nov. 13  
Futura  
Nov. 10  
Great Portland Estates  
Nov. 10  
London & Midlands Industrial  
Nov. 10  
Rush and Tompkins  
Nov. 7  
St. George's Land (Worcs.)  
Nov. 4  
Toray  
Nov. 5  
Usher-Walker  
Nov. 5  
Warner Holidays  
Nov. 5

**FINALS**  
Allied London Properties  
Nov. 4  
Balfour  
Nov. 4  
Bridport-Gundry  
Nov. 7  
Messing (Transvaal) Develop.  
Nov. 27  
Samuel Properties  
Nov. 6  
Welico  
Nov. 6

than financial.

The group has a monopoly as sole manufacturer of tyres and tubes in Zimbabwe protected by stringent import controls.

In addition during the UDI sanctions period, Dunlop which was cut off from its parent, used to repair and produce goods, fire protection systems and property.

These diversified activities account for some 15 per cent of turnover and profits, with turnover last year amounting to just over \$20m (£13m).

Although profits stagnated during the period when the Zimbabwe economy suffered from the escalating war and economic recession, the offer for sale prospectus forecasts a 30 per cent rise in after tax profits this year and a further 20 per cent increase next year.

Despite its size, the Dunlop issue is expected to be at least twice subscribed as the terms of the offer are extremely attractive under current market conditions.

The average dividend yield obtainable on good quality industrials on the ZSE is currently 4.5 per cent (net of tax) but Dunlop is coming in on an

offer yield of 6.7 per cent with the group forecasting a 12 cents dividend, one and a half times covered by earnings of 18 cents in the year ending December 31, 1981.

In addition, the earnings and dividend forecast look to be extremely conservative. In the nine months to September this year Dunlop earned 12.5 cents a share and is expected to earn at least 17 cents a share for the full year to December 1980 as against the profit forecast of 18 cents a share for 1981.

This means that the dividend is likely to be modestly higher than the 12 cents being forecast and the yield is then even more attractive.

The Zimbabwe industrial share market has moved up almost 30 per cent since the budget in July mainly due to the acute shortage of scrip in the market of extremely high domestic liquidity.

Accordingly, the Dunlop issue is likely to be very well received and the consensus view is that when the shares are first listed on November 24, they will open at a premium of around 15 per cent. If this does happen then other multinationals—the Turner and Newall group is named as one obvious possibility—are likely to take the plunge too.

## Wettern Bros. passes interim

A pre-tax loss of £24,800 for the first half of 1980 is reported by Wettern Brothers. This compares with a deficit of £17,500 last time which included an exceptional loss of £123,300.

Interest charges climbed from £47,000 to £113,800 reflecting the group's investment programme and the high cost of borrowing. The directors are omitting the interim dividend in view of the current and likely future trend in the group's activities, which cover construction materials, distribution and manufacturing. An intensive overhaul of operations is being undertaken to restore profitability and dividend payments.

Last time an interim of 2.067p was followed by a final of 3.147p. Profits for the year totalled £57,000 (£391,000). Turnover rose from £4,68m to £5,72m in the half year. There was no tax charge.

## GUS cautious on profits

We regret that the headline on the GUS story in Saturday's paper, indicating that profits were "well ahead" in the first five months of the current year, was misleading. As the text made clear, in fact profits have only been running near to the corresponding level last year.

## FT Share Information

The following securities have been added to the Share Information Service appearing in the Financial Times.  
Thomas Nationwide Transport (Section: Industrials), Westport Petroleum (Oil and Gas).

1980	Oct. 31	Price
High	Low	
252	203	Banco Bilbao
282	217	Banco Exterior
221	203	Banco Hispano
244	200	Banco Madrid
127	141	Banco Santander
282	237	Banco Vizcaya
180	132	Banco Zaragoza
261	208	Banco Zaragoza
220	128	Banco Zaragoza
108	75	Diagona
75	58	Espanola
68	53.2	Fecsa
40	23.2	Gal. Precados
71	58	Hidrotel
68	58.2	Iberdruco
123	100.7	Petroleros
113	85	Petroleros
115	102	Sogefina
65.5	51.5	Telefonos
70.5	58.2	Union Elec.

## DIAMONDS FOR INVESTMENT

Diamond Selection Ltd. offer loose-cut diamonds for investment. The following is a cross section of prices at current rates as at 1st October, 1980:

Based on \$ rate 2.18	Price in £
DS1 Grade	11.14
120/10/14	95.87
20/12/12	77.06
20/12/12	77.06
20/12/12	77.06
20/12/12	77.06
20/12/12	77.06
20/12/12	77.06
20/12/12	77.06
20/12/12	77.06
20/12/12	77.06

## NOTICE TO HOLDERS OF MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD.

(Matsushita Denki Sangyo Kabushiki Kaisha)  
6% CONVERTIBLE DEBENTURES DUE NOVEMBER 20, 1990  
Pursuant to Section 305 of this Company's Memorandum of Association, 1975, under which the above Debentures were issued, notice is hereby given as follows:  
1. On September 1, 1980, the Board of Directors of the Company resolved to make a free distribution of shares of the Company's Common Stock to shareholders of record as of September 21, 1980 in Japan (November 19 in New York City), at the rate of 1 new share for each 10 shares held.  
2. Accordingly, the conversion price at which the above-mentioned Debentures may be converted into shares of Common Stock of the Company will be adjusted effective immediately after such distribution to 1 yen 54.40 per share of Common Stock, and the adjusted conversion price will be 1 yen 54.40 per share of Common Stock.  
MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD.  
By: The Bank of Tokyo Trust Company Limited as Trustee  
November 3, 1980

## Sir Gerald Glover joins Amal. Estates

Shareholders at the annual meeting of Amalgamated Estates have approved the agreement for Sir Gerald Glover to subscribe for a total of 500,000 shares—2.79 per cent of the capital—at 17.5p. Sir Gerald, who now joins the Board, will provide the company with "further expertise and financial experience." Mr. Charles Rowe, the chairman, said.

After the meeting, Sir Gerald said he expected to be able to bring new projects to the group, remarking "fortunately my contacts are such that I can arrange finance for them."

He added "we will start small, not more than £1m, but as a year or two goes by I hope we will be up to £10m."

A former chairman of City of London Real Property and still chairman of Edger Investments, which he helped build up and which is now owned by Prudential, Sir Gerald added "I am 75. Then I will take up farming."

Property experts suggest his known contacts with British Rail may lead to the company becoming involved in developing some of the surplus railway property.

Meantime, managing director Frank Phillips, who injected his property interests into the then shell company some three years ago, said he is currently negotiating the possible acquisition of more shops in the Kings Road, Chelsea, where the company already has 18 shops.

Sir Gerald is expected to hand over as chairman of Edger to Mr. David McAlpine in January and become the company's president.

## MIDLAND BANK STATISTICS

Statistics compiled by Midland Bank show that the amount of new money raised in the UK by the issue of marketable securities in October was £138.1m, more than twice the total for October 1979 but less than the £207.3m raised last month. So far this year £1,006m has been raised in the corresponding period of 1979.

**Industrial Bank of Japan Finance Company N.V.**  
U.S. \$50,000,000 Guaranteed Floating Rate Notes due November 1982  
For the six months 1st November, 1980 to 1st May, 1981  
In accordance with the provisions of the Note, notice is hereby given that the rate of interest has been fixed at 15 1/2 per cent, and that the interest payable on the relevant interest payment date, 1st May, 1981 against Coupon No. 7 will be U.S. \$76.05  
By: Morgan Guaranty Trust Company of New York, London Agent Bank.

## THE SCOTTISH AGRICULTURAL SECURITIES CORPORATION LIMITED INTERIM STATEMENT FOR SHAREHOLDERS

- During the half-year to 30th September 1980, £451,000 of Heritable Loans were completed. At 30th September 1980, further Loans totalling £175,000 had been approved by the Directors and awaited completion. The high level of interest rates and the general uncertainty of future prospects for agriculture have been reflected in fewer loan applications being received than has been the case for many years. However, with activity in the market for farms increasing, the Corporation are now seeing a greater volume of applications.
- Reductions totalling £406,380 were made in the principal amounts of Loans during the half-year, of which £219,832 represented capital repayments as provided for in the Loan Agreements and £186,548 special reductions and repayments. The total amount of Loans outstanding at 30th September 1980, was £16,661,697.

## BIDS AND DEALS

## Rival bid planned for Tower

A GROUP of Blackpool businessmen are planning a rival bid to take over the Tower Company which changed hands in a £18m deal. And they have threatened to call in the Monopolies Commission if they are refused another chance to make a bid.

This was revealed by Blackpool estate agent, Mr. Owen Oyston, who is acting for the consortium. He said the recent announcement that Thoro-Emi, which owns the Tower Company, had sold it as part of a deal with Trusthouse Forte, and had hit the businessmen, "like a bolt out of the blue."

The sale must not be allowed to go through, said Mr. Oyston. "It is a disgrace that important parts of the Blackpool tourist industry, of vital importance to the local economy, should be bought and sold through financial dealings between London-based conglomerates."

It is surely in the best interests of Blackpool that important local industries should, where possible remain under the control of local people."

In a statement, Mr. Oyston said: "I wish to stress that we are ready and willing to commence negotiations with Thoro-Emi as a matter of urgency."

The consortium will be meeting in the next few days in the hope that the deal is not yet legally final and that they can reopen negotiations.

## METAL BOX

Risdon Corporation, a U.S. subsidiary of Metal Box, has purchased Metalurgica Bassan of Brazil a producer of metal components for cosmetic containers. The acquisition was for an undisclosed amount of cash.

## SHARE STAKES

William Press and Son—Colony Holdings has acquired 1.2m ordinary making total 9.97m (8.33p per cent).

Slough Estates—Kuwait Investment has acquired an additional 157,000 ordinary shares making at October 13 7,225,500 (5.12 per cent).

Helene of London—Mr. E. M. Passes has sold 500,000 shares, nearly 40 per cent of his holding. Sunlight Service Group—Throgmorton Trust has acquired a further holding of 170,000 ordinary shares making it the

beneficial owner of 720,000 (7.43 per cent).

Glass Glover Group—FS Assurance Trustees are the beneficial holders of 315,000 ordinary (5.8 per cent).

Sunlight Service Group—The non beneficial interest of Mr. J. A. Franks, chairman, has increased by 565,000 shares to 2,719,555 (28.03 per cent).

Murray Clydesdale Investment Trust—Sun Life Assurance Society now holds 140,000 B ordinary shares—7.63 per cent of that class.

Yorkgreen Investments—Energy Finance and General Trust Holdings has a beneficial interest in 345,000 ordinary (5.3 per cent).

Arrow Chemicals—J. K. Farrow, director, has disposed of 100,000 ordinary at 38p (beneficial).

## STANDARD LIFE BUYS 6.1% OF ROHAN GROUP

Standard Life Assurance has purchased 350,000 shares—6.1 per cent—of the Rohan Group at 185p per share. Rohan, based in Dublin, trades as an industrial estate developer and building contractor.

Of the total, 270,000 shares were purchased from Industrial Credit Company thereby reducing that company's holding from 15.4 per cent to 10.6 per cent. ICC has notified Rohan that it proposes to retain this holding as a long-term investment.

Standard Life also bought 75,000 shares from Mr. John S. Gibson.

Rohan reducing his holding from 119,889 shares to 44,889 shares. Purchases through the market accounted for the balance of 5,000 shares.

Rohan also announces the sale of 5,000 shares by Mr. Tom McGeogh, a director, who simultaneously exercised an option to purchase a further 10,000 shares, increasing his holding to 25,500 shares.

## Ford &amp; Weston acquisition

Ford and Weston Holdings, a private Derby company with a turnover of £25m, has acquired Gibson, Lea & Co., store and shopfitting group of Colwick, Nottingham.

Gibson Lea has a turnover of £3m and employs 120 people. The company provides a design and fitting service for joinery work and for the Storebest shop fitting system from Lubeck in Germany.

The cost of the acquisition is more than £500,000 and it is expected that Gibson Lea will earn profits of about £200,000 in the coming year.

## THOS. W. WARD

John Lee of Grantham, a member of the Thos. W. Ward group, has sold his textiles and waste-paper business, situated at Grantham, to Harris & Co. of Bristol. The consideration, payable in cash and is not material to the Thos. W. Ward group.

**C.A. VENABLE**  
U.S. \$20,000,000  
Bearer Depository Receipts  
representing undivided interests in a Floating Rate Deposit finally due 1986  
with  
**C.A. Cavendes**  
Sociedad Financiera  
(Incorporated with limited liability in the Republic of Venezuela)  
evidenced by consecutive three month Certificates of Deposit  
Notice is hereby given pursuant to the Terms and Conditions of the Bearer Depository Receipts (the "BDRs") that for the three months from 3rd November, 1980 to 3rd February, 1981 the BDRs will carry an interest rate of 15 1/2 per annum. On 3rd February, 1981 interest of U.S. \$39.29 will be due per U.S. \$1,000 BDR and U.S. \$39.29 due per U.S. \$10,000 BDR for Coupon No. 6.  
European Banking Company Limited (Agent Bank)  
3rd November, 1980

**M. J. H. Nightingale & Co. Limited**  
27/28 Lovat Lane London EC3R 8EB Telephone 01-621 1212

1980's capitalisation	Company	Last Change	Gross	Yield	P/E
270	Airprong	41	6.7	16.3	3.7
900	Armstrong & Rhodes	24	+1	1.4	3.8
10754	Brandon Hill	176	+1	9.7	5.5
690	County Cars 10.7% PI	89	-2	10.7	15.5
7308	Deborah Ord.	95	—	5.5	5.8
4387	Frank Hensell	117	—	7.9	6.8
9390	Frederick Parker	65	—	11.0	16.8
1882	George Blair	79	—	3.1	3.9
2250	Jackson Group	120	+5	6.0	6.7
1682	James Burrough	90	—	7.9	6.5
3111	Robert Jenkins	305	—	31.3	10.3
3354	Torday	218	+1	15.1	6.9
2654	Twinkl Ord.	12	—	—	—
2238	Twinkl 15% ULS	82	—	15.0	18.3
5798	Unilock Holdings	38	-1	2.0	7.9
12400	Walter Alexander	86	—	5.7	5.4
5801	W. S. Yates	240	-2	12.1	5.0

**FINANCE FOR INDUSTRY TERM DEPOSITS**  
Deposits of £1,000-£50,000 accepted for fixed terms of 3-10 years. Interest paid gross, half-yearly. Rates for deposits received not later than 21.11.80:

Terms (years)	3	4	5	6	7	8	9	10
Interest %	13	13	13	13	13	13	13	13

Deposits to and further information from The Chief Cashier, Finance for Industry Limited, 91 Waterloo Road, London SE1 8XP (01-828 7822, Ext. 367). Cheques payable to "Bank of England, a/c FFI." FFI is the holding company for ICFC and FCI.

This announcement appears as a matter of record only.

**US \$20,000,000**  
**European Economic Community**  
**13% Notes 1995**  
**Hill Samuel & Co. Limited**  
**Banque Internationale à Luxembourg S.A.**  
**Banque Nationale de Paris**  
**Bayerische Landesbank Girozentrale**  
**Samuel Montagu & Co. Limited**  
The above Notes were privately placed  
October 1980

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange



## LEUMI INTERNATIONAL INVESTMENTS N.V.

(Incorporated under the Commercial Code of the Netherlands Antilles)

U.S. \$20,000,000

7 PER CENT GUARANTEED CONVERTIBLE BONDS 1987

U.S. \$20,000,000

GUARANTEED FLOATING RATE NOTES "A" 1987

Extendable at the Holder's option to 1990 to be issued on 20th August 1980 bearing interest at 1 1/2 per annum above the London Interbank Offered Rate for six month Eurodollar deposits, payable semi-annually.

U.S. \$20,000,000

GUARANTEED FLOATING RATE NOTES "B" 1987

Extendable at the Holder's option to 1990 to be issued on 1st October 1980 bearing interest at 1 1/2 per annum above the London Interbank Offered Rate for three month Eurodollar deposits, payable quarterly.

U.S. \$20,000,000

GUARANTEED FLOATING RATE NOTES "C" 1987

Extendable at the Holder's option to 1990 to be issued on 5th November 1980 bearing interest at 1 1/2 per annum above the London Interbank Offered Rate for six month Eurodollar deposits, payable semi-annually.

All unconditionally and irrevocably guaranteed as to payment of principal, premium (if any) and interest by

## BANK LEUMI LE-ISRAEL B.M.

(Incorporated under the Companies Ordinance of Israel)

Issue price of the Convertible Bonds — 100 per cent

Issue price of the Notes — 100 per cent

Application has been made to the Council of The Stock Exchange for the Convertible Bonds and the Notes constituting the above issues to be admitted to the Official List.

Particulars of the Convertible Bonds and the Notes are available in the Extra Statistical Service and may be obtained during usual business hours up to and including 5th November 1980 from the following branches of

BANK LEUMI (U.K.) LIMITED

4-7 Woodstock Street, London W1A 2AF or Swan House, 34-35 Queen Street, London EC4A 4BT

18th August, 1980



# Adopting the art of doing nothing

## Credit National's cross-Channel bridge

Meanwhile, provisional Morgan Guaranty figures for October once again show that the pace of borrowing by non-oil developing countries has slowed substantially. During the month they raised only \$1.8bn compared with \$3.7bn in October last year. This brought the 10-month total to \$17.7bn compared with \$30.4bn in the same period of 1979.

The Deutsche Mark foreign bond sector was in a miserable state all week and there are few signs of an early improvement. The weakness of the currency is such that while selling pressure from abroad proceeds unabated, dealers were unable to find buyers, even at lower

Figures compiled by Morgan Guaranty show that a total of \$20.5bn worth of Eurobonds were launched during the first 10 months of this year, a 24 per cent increase over the comparable period last year. But while the volume of dollar denominated bonds increased by nearly 31 per cent and now account for 68.4 per cent of the new issues, D-Mark bond volume slipped by 3.8 per cent to account for only 16 per cent.

Borrowers	Amount m	Maturity	Av. life years	Coupon %	Price	Lead manager	Offer yield %
<b>U.S. DOLLARS</b>							
††Telefonica Mac. Espana	50	1990	10	6+	100	BNP, Dillon Read	6.060+
††CCL Int. Fin. NV	15	1995	15	7	100	O'Brien, Baseman Eichler	9.203
††Kleinwort Benson Fin.BV	50	1991	9	5½	100	Kleinwort Benson	5.918+
††Toyo Menka Kaisha	20	1996	15	7½	100	Nikko Secs. (Europe)	7.900
†Tokyo Corp.	70	1995	15	7½	100	Nomura Europe	7.900
All Nippon Airlines	40	1990	8	8½	100	Nomura Europe	8.994
†BBL NV	100	1986	6	5½	100	CSFB	5.063+
†Kay Capital NV	15	1995	15	8½-9½	100	Bear Stearns, NM Rothschild, Rothschild AG	-
<b>D-MARKS</b>							
†ESCOM (gteed S.A.)	100	1987	7	9½	99½	Dresdner Bank	9.351
†Indl. Bank of Finland	50	1990	6½	8½	98½	BHF Bank	8.615
†Venezuela	750	1990	8	9½	99	WESTLB	9.912
*†Michelin Fin. BV	200	1987	7	8½	99	Bayerische Vereinsbank	8.948
<b>FRENCH FRANCS</b>							
†Westland-Utrecht	100	1985	5	14	100	CCF	14.000
<b>SWISS FRANCS</b>							
†Österreichische Kbk.	100	1990	—	6	100	Wirtschafts-und Privbtk.	6.125
††**Swedish Export Credit Corp.	50	1983	—	6½	100	SBC	6.600
††Electric Power Dev. Co.	45	1990	—	5½	100	UBS	5.750
*†Kobori Yaken	10	1985	—	5½	100	Credit Suisse	5.250
*†Kobori Yaken	20	1985	—	6	100	Credit Suisse	6.000
††**ESCOM (gteed S.A.)	50	1984	—	6½	100	Credit Suisse	6.500
Philip Morris Intl. NY	100	1990	—	5½	100	SBC	5.500
<b>STERLING</b>							
EIB	20	1991	8½	13	99½	Kleinwort Benson	13.092
<b>GUILDERS</b>							
††**Nationale Nederlandse	60	1987	5½	10	99½	ABN	10.051
*†Nederlandse Gasunie	75	1987	5½	10½	100	AmRo Bank	10.250
<b>UNITS OF ACCOUNT</b>							
†Elam	20	1987	7	10	99	Kredietbank Intl. Gp.	10.207

\* Not yet priced. † Final terms. \*\* Placement. † Floating rate notes.  
 †† Registered with U.S. Securities and Exchange Commission.  
 Note: Yields are calculated on AIBD basis.

© Minimum. § Convertible.  
 † Purchase Fund.

**BY DAVID LASCELLES**

## Awaiting a discount rate rise

phere of Wall Street is tense, there is still a feeling that the Fed will meet its money supply targets for 1980. M1-A, the basic measure, is comfortably within the growth range. M1-B, the broader measure, is above it but is generally expected to level off in the weeks ahead.

**FT INTERNATIONAL BOND SERVICE**

BONDTRADE INDEX AND YIELD				
	Medium term	Long term		
Oct. 31 ..	na	na	na	na
Oct. 24 ..	na	na	na	na
High '80 ..	\$5.58 (18/5)	81.59	21.1	21.1
Low '80 ..	\$6.32 (2/4)	79.14	23(2)	23(2)

EUROBOND TURNOVER		
(nominal value in \$m)		
U.S. \$ bonds	Cdfe1	Eurofc1
Last week ..	1,958.1	4,774
Previous week ..	2,210.8	2,424
Other bonds		
Last week ..	298.1	426
Previous week ..	822.5	529

\* No information available—previous day's price.

† Only one market maker supplied a price.

**STRAIGHT BONDS:** The yield is the yield to redemption of the mid-price; the amount issued is in millions of currency units except for Yen bonds where it is in billions. Change on week = Change over price a week earlier.

**FLOATING RATE NOTES:** Denominated in dollars unless otherwise indicated. Coupon shown is minimum. C.dte = Date next coupon becomes effective. Spread = Margin above six-month

**Offered:** Par (Three-month)  
**Interest:** Near rate for  
**Term:** 3 months  
**Current:** 10%  
**Coupon:** Cvd=The current yield.

**CONVERTIBLE BONDS:** Denominated in dollars unless otherwise indicated. Chg. day=Change on day. Cvd. date=First date for conversion into shares. Cvd. price=Nominal amount of bond per share expected at conversion. Chg. of share at conversion rate fixed at issue. Prem.=Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

The list shows the 200 latest international bonds for which an adequate secondary market exists. The prices over the past week were supplied by: Arab Bank International Trading Securities (S.A.); Credit Suisse (S.A.); Credit Lyonnais; Commerzbank A.G.; Westdeutsche Bank AG; Westdeutsche Landesbank Girozentral; Banque Generale du Luxembourg S.A.; Banque Internationale Luxembourgeoise; Kreditbank Luxembourg; Allgemeine Bank Nederland N.V.; Credit Suisse; Credit Suisse (S.A.); Credit Suisse/Suisse Suisse; Union Bank of Switzerland; Akroyd and Smiths; Bankers Trust International; Bondtrade; Credit Commercial de France (S.A.); Citicorp; Citicredit (S.A.); London; Citicredit International; Daiwa Europe Bank; Deltec Trading Company; Dillon, Read & Overseas Corporation; First Chicago; Goldman Sachs; Hambro; Hambro & Co.; International; Kidder Peabody International; Merrill Lynch; Morgan Stanley International; Salomon Brothers.

**£20,000,000**

**al and Steel Commu**

**("ECSC")**

**½ % Bonds 1988**

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**Kleinwort, Benson**

**Limited**

**is**

**onal Bank Limited**

Bankverein		
Europe N.V.		
<b>Kredietbank International Group</b>		
<b>Kuwait International Investment</b>		
Bank	Amsterdam-Rotterdam Bank N.V.	Bank
ational	The Bank of Bermuda Limited	
caise du Commerce Extérieur		Bank of
Banque de Paris et des Pays-Bas		
heken- und Wechsel-Bank		Bayerische La
engesellschaft		
Frankfurter Bank	James Capei & Co.	
mmercial de France	Crédit Lyonnais	Cr
Bank	Deutsche Bank Aktiengesellschaft	
sterreichischen Sparkassen		Goldman Sa
Istituto Bancario San Paolo di Torino		Kidder,
ing Contracting & Investment Co. (S.A.K.)		Llo
Merrill Lynch International & Co.		S
Morgan Stanley International		New Jo
Europe N.V.	Orion Bank Limited	Peterbro
S	Salomon Brothers International	J. Henry
is Upham & Co.	Société Générale de Banque S.A.	
ntion Finance International		Sw
Westbank A.G.	Wardley	Westdeutsche La

**City**

**G. Warburg & Co.  
Ltd.**

**ent Co. s.a.k.**

**ca Commerciale Italiana**

**Bank Mees & Hope N.V.**

**de l'Indochine et de Suez**

**Banque Worms**

**andesbank Girozentrale**

**Chase Manhattan  
Limited**

**redit Suisse First Boston  
Limited**

**Dresdner Bank  
Aktiengesellschaft**

**chs International Corp.**

**Peabody International  
Limited**

**yds Bank International  
Limited**

**Samuel Montagu & Co.  
Limited**

**apan Securities Europe  
Limited**

**eck, Van Camphenhout  
et Cie S.C.S.**

**Schroder Wagg & Co.  
Limited**

**Société Générale**

**enska Handelsbanken**

**andesbank Girozentrale**



## Companies and Market

## WORLD STOCK MARK

**NEW YORK**

[illegible]

	1980	High	Low	\$
1979	100	100	100	100
1978	100	100	100	100
1977	100	100	100	100
1976	100	100	100	100
1975	100	100	100	100
1974	100	100	100	100
1973	100	100	100	100
1972	100	100	100	100
1971	100	100	100	100
1970	100	100	100	100
1969	100	100	100	100
1968	100	100	100	100
1967	100	100	100	100
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1964	100	100	100	100
1963	100	100	100	100
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1959	100	100	100	100
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1943	100	100	100	100
1942	100	100	100	100
1941	100	100	100	100
1940	100	100	100	100
1939	100	100	100	100
1938	100	100	100	100
1937	100	100	100	100
1936	100	100	100	100
1935	100	100	100	100
1934	100	100	100	100
1933	100	100	100	100
1932	100	100	100	100
1931	100	100	100	100
1930	100	100	100	100
1929	100	100	100	100
1928	100	100	100	100
1927	100	100	100	100
1926	100	100	100	100
1925	100	100	100	100
1924	100	100	100	100
1923	100	100	100	100
1922	100	100	100	100
1921	100	100	100	100
1920	100	100	100	100
1919	100	100	100	100
1918	100	100	100	100
1917	100	100	100	100
1916	100	100	100	100
1915	100	100	100	100
1914	100	100	100	100
1913	100	100	100	100
1912	100	100	100	100
1911	100	100	100	100
1910	100	100	100	100
1909	100	100	100	100
1908	100	100	100	100
1907	100	100	100	100
1906	100	100	100	100
1905	100	100	100	100
1904	100	100	100	100
1903	100	100	100	100
1902	100	100	100	100
1901	100	100	100	100
1900	100	100	100	100
1899	100	100	100	100
1898	100	100	100	100
1897	100	100	100	100
1896	100	100	100	100
1895	100	100	100	100
1894	100	100	100	100

[illegible]

1980  
High : Low -

[illegible]HOLLAND  
1680[illegible]

HONG KONG	
1985	Oct

[illegible]

NEW YORK

Indices

—DOW JONES

						1980		Since Comp'l't'n			
Oct. 31	Oct. 30	Oct. 29	Oct. 28	Oct. 27	Oct. 26	High	Low	High	Low		
Dustrie 92.4	91.7	92.5	92.8	93.2	93.1	945.00	874.57	798.13	1051.70	41.22	
							(22.9)	(21.7)	(11.7)	(17.6)	
Bonds	65.5	65.9	66.0	65.9	66.1	65.61	76.61	63.74	129.51		
Export	361.31	360.87	366.74	365.94	368.14	375.47	381.08	332.58	381.08	12.91	
Utilities	110.39	110.15	111.48	111.63	112.01	112.74	115.88	96.94	165.42	18.52	
							(8.7)	(27.3)	(28.4/33)	(24/42)	
Div. 100	48,116	33,050	37,200	46,300	34,430	41,220					
Price's high	829.35	low	911.60								
						Oct. 24	Oct. 17	Oct. 10	Year ago (approx)		
Ind. div. yield %						5.71	5.63	5.56	6.16		

STANDARD AND POORS

						1980		Since Comp'l't'n			
Oct. 31	Oct. 30	Oct. 29	Oct. 28	Oct. 27	Oct. 26	High	Low	High	Low		
Utilities	145.16	145.72	145.64	145.88	147.82	152.86	117.09	152.84	152.84	5.32	
						(11/10)	(27/7)	(16/10)	(30/32)		
Composite	127.47	126.29	127.81	125.05	127.88	129.85	158.70	115.23	155.70	4.49	
							(1/10)	(15.2)	(10/10)	(1/10)	
						Oct. 29	Oct. 22	Oct. 15	Year ago (approx)		
Div. yield %						4.55	4.44	4.37	5.43		
P/E Ratio						8.86	9.15	9.29	7.57		
Gov. Bond Yield						12.25	11.80	11.41	10.38		

U.S.E. ALL COMMON

						Rises and Falls					
1980						Oct. 31-Oct. 30-Oct. 29					
Oct. 30	Oct. 29	Oct. 28	High	Low		Issues Traded	1,913	1,902	1,888		
						Rises	900	265	671		
						Falls	647	1,165	785		
						Unchanged	366	372	493		
						New Highs	—	22	92		
						New Lows	—	14	11		

REAL

						1980					
Oct. 30	Oct. 29	Oct. 28	High	Low		High	Low				
Industrial	389.07	385.94	394.74	388.22	393.30	423.30	(23/2)	225.21	(27/2)		
Combined	359.16	354.21	362.18	350.22	357.30	373.30	(28/1)	225.21	(27/2)		
ONTO Composite	2246.2	2215.0	2301.4	2281.8	2368.5	2380.5	(20/10)	1782.5	(27/1)		

NEW YORK ACTIVE STOCKS

Change						Change					
Stocks traded						Stocks traded					
Royalty	1,238,900	12%	—	—	—	481,000	10%	—	—	—	—
	567,900 <td>23 1/2</td> <td>—</td> <td>—</td> <td>—</td> <td>466,000 <td>4%</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </td>	23 1/2	—	—	—	466,000 <td>4%</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>	4%	—	—	—	—
	533,100	37	+ 4%	—	—	401,000	45%	—	—	—	—
	533,100	65 1/2	+ 1 1/2	—	—	366,200	19%	—	—	—	—
	483,200	10 1/2	—	—	—	336,700	19%	—	—	—	—
									</		

	Oct. 31	Oct. 20	Oct. 29	Oct. 28	High	1990 Low
STRALIA All Ord. (1988/89)	1052.75 (31/10)	1015.75 (10/10)	1065.50 (19/10)	1065.50 (19/10)	1052.75 (31/10)	789.00 (2/1)
500 Shares (1988/89)	5076.45 (30/10)	5077.40 (17/10)	5077.40 (17/10)	5077.40 (17/10)	5055.50 (20/10)	4600.00 (25/10)
THE 20% Aktien (2/162)	88.50 (31/10)	88.50 (31/10)	88.50 (31/10)	88.50 (31/10)	88.40 (7/1)	88.50 (19/10)
GIUM Allian SE (31/12/83)	88.51 (31/10)	88.50 (31/10)	88.50 (31/10)	88.50 (31/10)	105.75 (11/12)	88.50 (31/10)
MARK Unterhangen SE (1/1/78)	87.27 (31/10)	88.50 (31/10)	88.50 (31/10)	88.75 (31/10)	87.27 (31/10)	74.78 (5/10)
NORCE General (28/12/81)	118.2 (31/10)	118.5 (31/10)	117.8 (31/10)	118.5 (31/10)	118.5 (30/10)	97.1 (3/1)
Tendence (28/12/78)	119.4 (31/10)	119.5 (31/10)	118.2 (31/10)	118.5 (31/10)	118.2 (15/10)	99.0 (3/1)
MANY Allian (31/12/83)	224.74 (31/10)	228.00 (31/10)	229.94 (31/10)	229.71 (31/10)	230.50 (28/10)	212.73 (28/10)
Immerzbank AG Dec. 1986	639.50 (31/10)	703.2 (31/10)	705.1 (31/10)	708.0 (31/10)	748.2 (25/10)	867.00 (27/10)
LAND CBS General (18/70)	85.4 (31/10)	85.4 (31/10)	85.0 (31/10)	85.1 (31/10)	89.3 (25/10)	74.0 (22/10)
CBS Indust. (18/70)	84.0 (31/10)	84.1 (31/10)	85.0 (31/10)	84.2 (31/10)	89.2 (11/11)	83.2 (28/10)
ONG KONG Sung Bank (6/7/94)	1488.50 (31/10)	1488.50 (31/10)	1461.50 (31/10)	1471.50 (31/10)	1488.50 (31/10)	758.5 (13/10)
Y Asia Comm. Intl. (7/72)	180.50 (31/10)	180.12 (31/10)	174.43 (31/10)	172.27 (31/10)	185.50 (31/10)	85.71 (2/1)
AN Alliance (16/6/49)	1760.75 (31/10)	1754.75 (31/10)	1775.50 (31/10)	1788.44 (31/10)	1775.50 (30/10)	6478.93 (27/10)
to New SE (4/1/82)	631.00 (31/10)	636.50 (31/10)	636.54 (31/10)	631.50 (31/10)	637.50 (30/10)	604.21 (10/10)
WAY SE (1/1/72)	125.5 (31/10)	124.24 (31/10)	124.42 (31/10)	125.50 (31/10)	144.70 (14/10)	110.12 (28/10)
APOTRE to Times (1965)	581.5 (31/10)	666.75 (31/10)	691.80 (31/10)	688.21 (31/10)	681.0 (31/10)	429.76 (3/1)
TH AFRICA (1958)	— (31/10)	354.0 (31/10)	354.0 (31/10)	355.5 (31/10)	1020.1 (29/10)	648.5 (2/1)
atrial (1958)	— (31/10)	352.5 (31/10)	350.0 (31/10)	349.1 (31/10)	632.5 (30/10)	466.0 (2/1)
IN rid SE (28/12/78)	100.11 (31/10)	105.25 (31/10)	108.27 (31/10)	108.52 (31/10)	111.17 (16/10)	85.79 (15/10)
Don & P. (1/1/68)	267.0 (31/10)	282.50 (31/10)	277.57 (31/10)	274.75 (31/10)	267.0 (31/10)	354.72 (17/1)
ZERLAND BankOpi (31/12/84)	287.0 (31/10)	205.5 (31/10)	204.0 (31/10)	201.0 (31/10)	217.0 (11/10)	278.0 (28/10)
LD Intl. (1/1/78)	— (31/10)	156.8 (31/10)	157.5 (31/10)	156.0 (31/10)	161.0 (16/10)	128.5 (27/10)

Note: Values of all indices are 100 except NYSE All Common—50; Standard  
 Poors—100; and Toronto—1,000 the last named based on 1975. \* Rounding  
 5 400. Industrials. 5 400 Industrials. 40 Utilities. 40 Financials and  
 40 Transports. c Closed. u Unavailable.

AUSTRIA					
High	Low	Oct. 31	Price \$		
836	258	Creditanstalt	336		
836	235	Länderbank	236		
836	265	Perinosee	263		
837	103	Österreich. Cbl.	92		
887	230	Steyr Daimler	244		
359	308	Veitscher Mag.	280		
263.6				915 Paracord	857.10
347.5				95 Beechney	94.50
240				947 Parnell	122.00
240				165 Perrier	182.00
270				205 Polaris	239
534				289 Radotech	222.00
475				149 Redoute	439
145				918 Phone-Poulenc	289
288				1198 Stange Int'l	189
189.7				1198S Goheln	189
264				264S Rosegold	219
317.5				260S	1,173.75
1,539				68S Telemach Elect.	2,129
261.7				189 Thomson-Brandt	256.5
BELGIUM/LUXEMBOURG					
High	Low	Oct. 31	Price Price		
1,450	1,034	ARBED	1,370		
1,450	5,000	Banq Ind & Lux.	5,000		
1,170	1,576	Bocakers S.	1,629		
1,180	1,300	Chem. Oct.	1,028		
396	1,900	Cockerill	1,98		
396	1,320	EBSB	1,695		
210	1,400	Globe Cbl.	1,110		
210	2,700	Fabrique Nat.	2,380		
1,600	1,850	Gab-Inne	1,800		
1,600	1,000	GEL Intercom	1,028		
1,198	880	Gevaert	1,990		
1,198	2,435	Hoboken	2,820		
1,198	1,494	Intercom	1,494		
1,610	5,370	Kredietbank	5,410		
1,610	2,400	Pan Holding	4,420		
350	3,600	Petrofina	5,420		
350	4,800	Sovate Bank	5,110		
350	2,100	Soc Gen Banq.	2,295		
750	1,110	Soc Gen Belg.	1,110		
750	1,110	Soc Gen Belg.	1,110		
750	2,300	Solvay	2,445		
750	1,000	Traction Elect.	1,000		
750	1,000	ES	1,968		
750	694	Union Miniere	703		
750	1,110	Vieille Mont.	1,110		
DENMARK					
High	Low	Oct. 31	Price Krone		
.5	108	Andelsbanken	113.6		
.5	218	Bankita Skand.	286.4		
.5	218	Burn & Weitz	215		
.5	102.75	Corp Handelsbank	116.4		
.5	169.75	D. Sukkerfab.	342.6		
.5	102.75	Den Danske Bank	116.4		
.5	102.75	East Asiatic	142.4		
.5	123	Finansbanken	169.4		
.5	102.75	Forenede Byg.	325		
.5	149.5	Forende Danmark	185		
.5	165.5	GNT Hids	173		
.5	129.25	Nord Kabel	160		
.5	218	Norsk Bk	215		
.5	100	PapirFabrikken	105.4		
.5	105.55	PrivatBanken	121		
.5	105.55	Ryds Bank	121		
.5	105.55	SMITH (FL)	263		
.5	306	S. Berendsen	399		
.5	96.75	Superfos	135.6		
GERMANY					
High	Low	Oct. 31	Price Om.		
129.9	71	AEG-Telef.	74.5		
121.5	121	Aifanz Vers.	87.4		
121.5	124	ALFA	106.1		
129.8	101	BAVER.	106.1		
269.5	21	Bay-Hypo	296		
219.5	261	Boyer Verbin.	296		
127	165	BBHF-Bank	196		
127	143	BHW	133.5		
127	139	Bayer. Bevar.	137.6		
127	157	Commerz	157.6		
127	46.2	Com. Gummi	55		
127	38.5	Dresdner Bank	55		
127	140.9	Deut.	260.5		

7.96	4.55 CRA	6.95	19.5	1.55 Tropic Oats	29.5
7.96	4.53 CRN	7.95	2.95	1.50 Unica	2.45
0.88	0.70 1/2 Dimpco	0.92			
0.88	2.80 Castlemaine Tia	5.6			
0.88	3.55 Cluff Oil (Aust.)	0.66			
0.88	0.70 1/2 Dimpco	0.92			
1.41	1.35 Commodore Cement	1.58			
0.88	0.80 Cotesa Crn	0.92			
2.00	3.95 Comstock	5.8			
1.00	5.30 Oxa Gold	9.8			
3.50	3.50 Containers	2.90			
3.25	2.05 Costain	2.90			
4.70	2.10 Crusader Oil	4.70	2.55	1.00 Accanto	1.25
0.70	0.70 Dimpco	0.92	2.40	4.55 Banco Brazil	2.55
2.75	1.50 Elder Smith GM	2.40	1.85	1.45 Banca Ita	1.95
0.70	3.00 Henderson Res.	0.78	5.5	1.50 Balcas	5.50
0.70	7.00 Prop. Trdg. Corp.	0.78	3.57	4.00 Lajas Amer	3.57
0.70	3.00 Hamesley	4.40	6.10	1.57 Petrobras Pp	5.67
0.70	3.00 Hamesley	4.40	3.10	1.50 Pilsa Oil	3.10
1.25	0.55 Hooker	1.22	4.00	2.35 Souza Crn	2.25
0.40	2.05 ICI Oil	0.58	7.50	4.80 Unipr PC	5.70
0.40	0.55 ICI Oil	0.58	11.00	2.5 Vale Rio Doce	3.00
2.80	1.40 Jmberiana 25c	2.00			
1.00	1.05 Jona	0.92			
0.60	0.97 Oxa Gold	0.55			
2.25	1.10 Lemnard Oil	1.58			
0.60	0.50 Leachtrich	0.70			
0.40	0.15 Merichard Oil	0.42			
1.95	0.33 Monarch Pet.	0.60			
1.95	1.45 Nardol	0.92			
3.80	3.32 Nat Bank	2.50			
0.80	2.10 News	2.70			
0.80	1.05 Nipco	0.92			
4.45	3.90 North Bldg. Hill	4.35			
0.50	3.90 Okbridge	4.65			
0.50	0.50 Oxi	0.58			
0.50	5.10 Pampco	8.95			
0.45	1.40 Pan Pac	0.48			
0.45	0.85 Pons	0.55			
0.78	0.95 Oxa Morg. T.	0.97			
0.80	1.50 Reckitt & Co.	2.50			
0.80	5.00 Reckitt	5.00			
0.65	1.00 Reigh (H.C.)	1.58			
0.65	0.50 Southland M'n's	0.68			
0.65	0.50 Sargento & Expt.	0.68			
0.65	1.90 Tish Nationwide	3.10			
0.65	1.50 Tooth	2.10			
0.65	0.50 Tropic Mining	0.68			
0.65	0.25 Vale Rio Doce	0.72			
0.65	0.50 Waltons	0.83			
0.65	0.50 Western Mining	0.60			
0.65	1.70 Woodside Petro	1.82			
0.65	1.40 Woolworths	1.81			
0.65	2.75 Wormald Int	3.55			

FINANCIAL RND US\$0.90 (Discount of 27 1/2%)			
BRAZIL			
1980		Oct. 31	Price Crd
High	Low		
2.40	2.55	1.00 Accanto	1.25
2.40	4.55	Banco Brazil	2.55
2.40	1.85	1.45 Banca Ita	1.95
2.40	5.5	1.50 Balcas	5.50
2.40	3.57	4.00 Lajas Amer	3.57
2.40	6.10	1.57 Petrobras Pp	5.67
2.40	3.10	1.50 Pilsa Oil	3.10
2.40	4.00	2.35 Souza Crn	2.25
2.40	7.50	4.80 Unipr PC	5.70
2.40	11.00	2.5 Vale Rio Doce	3.00

TEL AVIV			
Company	Prices Nov. 2 1980	Change on the week	
Banking, Insurance and Finance			
Bank of Israel	962	+ 23.0	
IDB Bankholding	1,075	+ 17.0	
Bank Hapoalim Br.	921	+ 70.0	
Union Bank Israel Br.	950	+ 73.0	
Uz. Mizral Bank	980	+ 18.0	
Hessah Insurance Br.	950	+ 18.0	
Gen. Mort. Bank Br.	718	+ 8.0	
Bank Leumi	775	+ 19.0	
Land Development			
Africa Israel Inv. 1270	1,330	—	
Agumim	820	—	
Property and Building	750	+ 23.0	
Public Utility			
Israel Electric Corp.	502	+ 35.0	
Israel			

4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 8



# FINANCIAL TIMES SURVEY

Monday November 3 1980

## Middle East Oil and Gas

The Iraq-Iran conflict is one the oil producers could do without, because it will inhibit future investment in war-vulnerable industries. Political survival and the need for a sensible pricing strategy are the main priorities, plus a drive to lead the various economies away from their reliance on one resource.

### Security the constant worry

By Patrick Cockburn

DURING THE 1970s Middle East oil producers benefited from war and revolution. Prices began to rise with Col. Gaddafi's attacks on the independents in the early years of the decade. The Arab-Israeli war of 1973 led directly to the tremendous growth in the cost of oil consumed in the West and elsewhere. In the mid-1970s the real price of crude dropped until the strikes against the Shah in the oilfields of Khuzestan in late 1978 started a new explosion in export prices. The immediate benefits to producing States of the Iranian revolution are obvious. Nobody was slow to take advantage of them but with the fall of the Shah the spectre of revolution and war stood on the shores of the Gulf. For 18 months Iran's attacks on its fellow oil producers remained rhetorical and fears among the industrialised States that Ayatollah Khomeini's triumph in Iran would lead to the Gulf countries falling like so many dominoes seemed to disappear. The Iraqi attack changed all that. What was planned as a limited assault to obtain territorial concessions,

increased prestige for Iraq and the punishment of the rulers of Iran turned into a total war.

Nothing was sacrosanct. Oil facilities on both sides have been shelled and bombed. Within a matter of days almost 500 barrels of crude were removed from the world market. The impact of this was not immediately very dramatic. The Iranian revolution had shocked the oil market and some new trauma had been vaguely expected by the oil consumers. Stocks were high and in any case, there was little the West could do about a war between two protagonists whose only point in common is a deep suspicion of the industrialised world.

It is certainly a conflict the oil producers could have done without. The Gulf States are at the heart of the Organisation of Petroleum Exporting Countries (OPEC) and already at the Vienna Summit it was clear that political antagonisms were taking first place. The elaborate new price structure, with special indices to link the increase in the crude price to inflation and industrial development in the world, clearly made little impact on the Iranians.

Their Oil Minister, Mr. Ali Akbar Moinefar, spent much of the conference belabouring the Iraqis and vetoing any new price system. In Iran itself the Government had already succeeded in April in cutting itself off from major oil markets by raising its price just as the market was softening. This self-inflicted blow caused more damage to the Iranian economy than all of President Carter's sanctions. The problem for the key oil producers is that their own security is threatened and there is very little they can do about

it. Saudi Arabia, Kuwait and the others have small populations and even the most grandiose military projects cannot turn oil wealth into security. They have every reason to fear their enemies and good reasons too to fear their friends.

#### Distance

The so-called Carter Doctrine enunciated by the U.S. in January that Washington was prepared to use force to secure Gulf oil supplies from outside threats was not greeted with any enthusiasm by Gulf States. They desperately need to keep Great Power rivalries at a distance—they clearly cannot be excluded altogether from an area which provides 60 per cent of OPEC production and a high percentage of Europe's supplies.

Oil prices—indeed economic considerations in general—must take second place to the needs of political survival. Whether this requires producing more oil or less hardly matters. Security is what counts. All the arguments over the past year about the graduated increases for oil over the coming decade appear irrelevant when the chips are down. Libya and Algeria may not feel that way but their production is insufficient to really sway the oil markets.

Saudi Arabia's views are more crucial than those of the Kingdom now provides 42 per cent of OPEC's total exports. The fear that the war between Iraq and Iran could spread south to the Strait of Hormuz has led the Saudis to seek more American protection. In late September four AWACs surveillance aircraft were put at Saudi Arabia's disposal. A large fleet, mainly of U.S. vessels, waits in the Indian Ocean as a symbol



Drilling a natural gas production well for BANOCO in Bahrain

of Western intentions.

The increase in Saudi Arabian production to 10.4m barrels-a-day (b/d) production initially quieted fears in the West that the uncertainty of the political situation would lead to dramatic price increases. Other oil producers such as Kuwait and the United Arab Emirates (UAE) showed some sympathy in the early days of October for the consumer but were not prepared to increase their production dramatically. Qatar's promised contribution for instance, was a tiny 20,000 b/d on top of existing output of 475,000 b/d.

In the middle of October the UAE increased fears that there would be some hardening of prices when they raised their oil by \$2 a barrel.

Earlier this year the Iraqis had already discovered the limits of the market when they surprised purchasers by raising prices by \$2 to \$35. A consortium of 12 Japanese companies together with BP and Shell thought this too expensive. They pulled out. The Iraqis blamed their withdrawal on U.S. pressure but the purchasers maintained that their motives were purely commercial.

At the same time as the abortive Iranian demarche the spot market was soft and the depression in the West on top of a mild winter had lifted stocks to a high level.

Against this background it seemed opportune for OPEC to try to develop some general strategy on prices. With the OPEC current account surplus for 1980 estimated to total \$120bn no member of the organisation was likely to cut prices purely to increase revenues.

Since the first explosion of oil prices in 1973 total OPEC

external assets have increased to \$300-350bn of which some \$118bn is held by Saudi Arabia. The OPEC summit in Vienna could have adopted the plan pushed by the Saudi Arabian Oil Minister, Sheikh Yamani, to link the increase in the oil price to indices which would take account of the impact of inflation and the development of the consumer countries' economies. The producing States had much to gain economically but the political divisions proved too wide to bridge.

Politics, not economics, will determine the future decisions of OPEC. It is unlikely that Arab States will ever again push for the breakthrough development seen after 1973. The limitations on capacity to absorb investment have been demonstrated. The fall of the Shah has shown the consequences of fracturing the social structure in pursuit of swift growth.

#### Phenomenon

There is a less noticeable phenomenon which may also restrict the growth of the countries of the Gulf in future. The war between Iraq and Iran looks as if it will be prolonged. Once it is finished both sides will move quickly to repair or replace their oil production and export facilities. But it is most unlikely that either side in the war or their immediate neighbours expect to see stability return to the Gulf.

Even with a peace there is always the chance of war breaking out again. This will discipline the combatants from investing billions of money in downstream industries which are vulnerable to air attack and artillery. Bandar Khomeini in Iran has been severely damaged. The Iraqi fertiliser and petro-

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chemical plants at Khor al-Zubair have come under attack. Capital-intensive projects are less attractive in a region where air raids are possible.

It is not surprising that the atmosphere today in the main Middle East oil and gas producers is so different from the heady days after the 1973 price rise. It is true that between the end of 1978 and today the price of Saudi Arabian light crude rose from \$12.70 a barrel to \$30. But it is likely that the rulers of the Kingdom would have traded all the increased wealth for the political security which money cannot buy. The views of the Algerians and the Libyans hardly count when the main Gulf producers consider their political options.

Already the attitudes of the producing States to oil prices and production, the development of industry, the import of expatriate labour, the distribution of foreign assets, and the future of OPEC have been modified if not utterly changed by the fall of the Shah and the Iraq-Iran war.

## المصرف العربي الليبي الخارجي

### LIBYAN ARAB FOREIGN BANK

(INCORPORATED UNDER LAW No. 18 OF 1972)

Established in 1972 and wholly owned by the Central Bank of Libya, it is the only financial institution in the Socialist People's Libyan Arab Jamahiriya with OFFSHORE STATUS.

In its eight years of activity the L.A.F.B. has set up a worldwide chain of financial institutions and companies, become active in the international financial markets and has an international network of correspondents. FOREBANK, as it is commonly known, recorded satisfying results in 1979. The balance sheet total rose from US\$2,313.3 MM to US\$2,585.0 MM an increase of 11.8 per cent and net profit (pre-tax) rose from US\$31.7 MM to US\$47.0 MM an increase of 48.2 per cent.

#### FINANCIAL HIGHLIGHTS

|                               | IN US DOLLARS<br>(MILLIONS) |
|-------------------------------|-----------------------------|
| DUE FROM BANKS                | 692.4                       |
| INVESTMENT LOANS AND ADVANCES | 273.6                       |
| EQUITIES                      | 349.0                       |
| DUE TO BANKS                  | 777.6                       |
| DOC CREDITS                   | 4,500.0                     |
| CAPITAL AND RESERVES          | 172.2                       |

#### BOARD OF DIRECTORS

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#### HEAD OFFICE

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## MIDDLE EAST OIL AND GAS II

## Determined policy to build up industry

## OPEC

JOHN CHRISTIE

THE Organisation of Arab Petroleum Exporting Countries (OPEC) is regarded by some jaundiced outsiders as a cosy cartel whose Arab members spend much of their time deliberating the timing and scale of the next oil price increase. To others OPEC might seem merely a regional extension of the Organisation of Petroleum Exporting Countries (OPEC) itself; a nationalistic offshoot from the parent body, a club within a club.

But while OPEC is mainly concerned with the international arrangements and relations of its members, OPEC is engaged in a surprising range of activities well beyond regard for oil prices and supply and demand problems.

The undoubted influence and power of OPEC rests, of course, on the oil resources it represents. The 11 members of OPEC — Algeria, Bahrain, Egypt, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, Syria, and the United Arab Emirates — between them produced over 8,000 million tons of oil in the years 1970 to 1979; more

than one-third of the world total consumption of crude oil.

The current war between Iraq and Iran has taken about 4m barrels of oil a day off the market. Yet the remaining OPEC producers, if they increased their production to fill the gap, could easily provide an additional 3m barrels a day. This would more than cover the shortfall caused by the war, since more than 2m barrels a day was going into storage before the fighting broke out.

Whatever the eventual outcome of the Iraq-Iran war the solidarity and unity of OPEC will be severely prejudiced: the two countries are scarcely likely to co-operate amicably together in the OPEC framework.

## Differences

No such problems beset OPEC. There have been disagreements among the Arab members in the 12 years of OPEC's existence. In 1971 Kuwait raised objections to the admission of Iraq to OPEC. Dubai opposed the OPEC decision to build a dry dock in Bahrain; as a result of the Camp David agreements Egypt is estranged from the rest of the Arab world. Nevertheless, OPEC has managed to absorb and survive internal differences and, on the whole, does present a united Arab front on the oil issue.

For OPEC the oil issue is a great deal more than arguments about oil price structure and production levels. In a recent article (in the Third World Quarterly) Dr. Ali Ahmad Attiga, Secretary General of OPEC, wrote of "continuous campaign, tantamount to cold war, waged against OPEC by many circles with vested interests in the preservation of the present world economic order."

Dr. Attiga wrote in the context of OPEC generally, but the message is undoubtedly an OPEC one. At the core of OPEC's position is the chill certainty that the Arab oil states essentially have one commodity for international trade, the ultimately finite and constantly dwindling oil resource.

OPEC's considered answer to this inescapable circumstance is a determined policy to build up a substantial industrial capacity in the Arab oil states, both as a vehicle for future growth and a replacement for dependence on oil.

This policy is not without its critics, who question the long-term viability of industries based in countries with mainly very small populations and a severe shortage of technological and managerial skills. But OPEC maintains there is no real alternative to industrialisation and part of the price of

the oil exchange must be the provision by the industrially-advanced countries of high grade industrial technology. Among other things, OPEC has called for a relaxation of the embargo on the export of nuclear technology for peaceful purposes and a greater involvement by the industrial nations in establishing modern industrial capacity in the Arab world.

In pursuit of its policy of industrialisation, OPEC has been instrumental in the formation of a number of industrial and financial entities which are already making their economic and social mark on the Arab oil countries. These developments are parallel and additional to the national industrial programmes of the individual OPEC members and are meant to complement rather than compete with local enterprises.

All of the OPEC-sponsored companies are inter-Arab in character, jointly financed by the subscriptions of the OPEC

members. Not all the member states participate in every project, nor is equal subscription the rule: it is for the individual countries to decide on participation and the amount of capital subscription. The companies function independently and are meant to compete in the open market and conduct their business on a profitable basis.

The first of the OPEC-sponsored companies to be formed was the Arab Maritime Petroleum Transportation Company (AMPTC), incorporated in 1973 and based in Kuwait. AMPTC elected to go for new building for its oil tanker fleet and found itself beginning operations in the middle of a world shipping recession. The company has lost money from its inception: the present forecast is for a net loss of \$20.5m in 1980.

Future profitability is doubtful but OPEC has its inter-Arab oil tanker fleet and the organisation is not short of money to keep it in being. The next OPEC-sponsored venture

was the Arab Shipbuilding and Repair Yard (ASRY), the dry-dock installation inaugurated in Bahrain in 1976. The project is capitalised at \$300m and the yard is managed by Lisnave of Portugal.

Current occupancy is reportedly running at about 90 per cent of capacity and ASRY revenue in the first six months of this year was \$11m. OPEC has recently completed feasibility studies for a similar dry-dock facility in the Mediterranean, with Algeria selected as the location.

Another OPEC-inspired creation is the formidable Arab Petroleum Investment Corporation (APICORP). Formed in 1975 with an authorised capital of about \$1bn, of which a third is subscribed, APICORP has already invested in various oil projects in Algeria, Oman and Turkey. Last year the corporation made a net profit of Saudi Riyals 95.3m from revenues of SR 118.0m. APICORP has already made

its presence felt in the field of oil-related investment and it has the potential — and the financial support — to become a major force in the petroleum industry. Recently, APICORP's charter was broadened to allow it to invest in oil projects throughout the world and the corporation announced that it is actively seeking oil situations in which, preferably, it can be an equity partner.

## Ambition

It is not too fanciful to consider the possibility that one day APICORP could be a partner in British North Sea oil developments; APICORP has both the ambition and the capacity to do so and it is certain that the corporation's investment analysts' slides have been run over the prospects.

OPEC's efforts to establish direct commercial interests in the exploration and production areas of the oil industry is in the hands of the Arab Petroleum Services Company (APSC). This company, based in Tripoli in Libya, is a holding company expressly charged with the creation of separate companies to function in oil-related industries.

The Arab Drilling and Work-over Company (ADWC) is APSC's first offshoot. ADWC operates 15 drilling rigs in

Libya and has been invited to extend its operations to Bahrain and Iraq. Ultimately, ADWC plans to be able to offer its services on a worldwide basis.

OPEC's next steps in the industrialisation programme, for which it already has approval, include the establishment of the Arab Detergents Company with an initial capital of \$200m; a company to produce basic Lube Oils, an Arab Engineering Consulting company; a company to specialise in the repair and replacement of ships' propellers; and an Electric Well-Logging Services company.

The measure of the success of these companies, both in being and planned, will not be taken only by a financial yardstick. To OPEC the establishment of indigenous industries in the member states has a value beyond financial considerations. Also, with some justification, OPEC believes it has done more to create practical aspects of Arab economic unity than all the well-meaning but largely ineffectual political attempts to achieve the same goal.

In the long run OPEC's ambitious and far-reaching industrial programmes may or may not work, but whatever the outcome the Arab oil states are embarked on a process of enormous and irreversible change.

## Increasing role as trade develops

## GAS EXPORTS

MARTIN DICKSON

TWO MAJOR new policy moves this year by Algeria have highlighted the rapidly growing importance of the international gas trade — and the Middle East's significant role in it.

Algeria has been calling for the creation of an international cartel of gas producers, on lines similar to the Organisation of Petroleum Exporting Countries (OPEC), which could fix world prices the way OPEC does for oil.

It has also been trying to push the price of natural gas up to parity with crude oil — a move which has involved it in a long pricing dispute with the major customers for its liquefied natural gas (LNG) — Gaz de France and the El Paso company in the U.S.

Last spring Algeria reduced to a trickle its supplies of LNG to Gaz de France when this customer refused to accept a price rise from less than \$3 per million British Thermal Units (BTUs) to \$6. In the summer agreement was finally reached on a payment of \$3 to \$3.50 per million BTU. In an attempt to save face Algeria has claimed that this is merely a down-payment towards a price yet to be fixed. But the fact remains that the settlement was a sharp setback to its parity campaign.

The Algerian Government seems on the verge of reaching a similar compromise agreement with El Paso, whose LNG supplies it severed completely when the Houston-based company refused its price demands. Whatever the outcome, both the pricing dispute and the cartel calls are symptomatic of the increasing importance of the international gas trade in a world where the energy supply-demand equation is finely balanced.

The international gas trade — both by pipeline and as LNG —

amounted to about 170bn cubic metres last year, with some 27 per cent provided by the Netherlands, 24 per cent by the Soviet Union, 18 per cent by OPEC States (in the Middle East and Indonesia) and 16 per cent by Canada.

Trade is expected to double by 1990 and OPEC's share of it could rise to just over 35 per cent, with members of the cartel playing a predominant role in LNG movements.

At first sight it may seem surprising that the Middle East does not have an even bigger role in the gas trade, given its pivotal role for the world oil industry. But it is relatively recently that the gas reserves of the Middle East have been exploited on any major scale.

The production of LNG, which involves cooling gas to minus 161 deg C, was pioneered by Algeria. It delivered the world's first LNG commercial cargo to the Soviet Union, in October, 1964. Since then its LNG capacity has expanded rapidly, so that last year it was contracted to supply a total of 22.4bn cubic metres to customers in France, the U.S., Spain and the UK.

## Brake applied

However, earlier this year Algeria applied the brake to its LNG expansion. It announced that it was not going to go ahead with construction of a third LNG plant at Arzew, on its western coastline, during its current plan period, which ends in 1984.

The move has been a blow to Holland and West Germany, since Sonatrach, the Algerian State hydrocarbons group, had agreed to supply them from this plant with 22.4bn cubic metres of LNG over a 20-year period, starting in 1984.

But Algeria does not seem to have ruled out the possibility of building the plant at a later date or alternatively sending the gas via a pipeline across the Mediterranean, possibly to Spain.

One advantage of a pipeline, from Algeria's point of view, is

that this could transfer much of the burden of capital costs off the Algerian Government's shoulders and on to those of the recipients or pipeline operators.

As it is, a large proportion of Algeria's gas is to be moved to Europe via a \$2-\$3bn pipeline, currently under construction, stretching 1,500 miles from its eastern gas field of Hassi R'Mel to the Italian city of Bologna. This pipeline will initially carry 12.36bn cubic metres of gas annually.

Only one other Middle Eastern state — Iran — has relied on a pipeline for gas exports. In the Shah's time Iran shipped 10bn cubic metres of gas a year to the Soviet Union via the Igat 1 line. The figure dropped to 3bn cubic metres in 1979 and exports ceased altogether earlier this year, for technical reasons and because of an Iranian-Soviet pricing dispute. Work has been suspended on a second pipeline to the Soviet Union designed as part of a complicated pan-European supply network.

Two other Middle Eastern states have followed Algeria's move into LNG — Libya, which has been supplying France and Spain with up to 3bn cubic metres a year since the early 1970s, and Abu Dhabi, where a liquefaction plant with a design capacity of 5bn cubic metres a year has been operating on Das Island for the past three years.

A major question mark hanging over the future of LNG supplies from the Gulf is what Qatar intends to do with the vast gas reserves of its north-west home field, discovered offshore in 1972. Industry estimates suggest the field, arguably the world's biggest, could hold up to 2.8 trillion (million million) cubic metres.

Several other Middle Eastern oil producers have decided to do much of their gas for domestic consumption. The most notable example of this approach is Saudi Arabia, which is undertaking a huge gas-gathering project whose costs could exceed \$20bn.

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## MIDDLE EAST OIL AND GAS III

# State takes a bigger stake in production

### State Companies

RAY DAFTER

THE COMPLETION of the takeover by Saudi Arabia of the powerful Arabian American Oil Company (Aramco) in September set the seal on a trend that has fundamentally reshaped the international oil industry over the past decade.

Aramco had grown into the world's largest oil-producing company. It provided a vital flow of crude oil to its four U.S. partners—Standard Oil of California (Chevron), Texaco, Exxon and Mobil—while at the same time exerting considerable influence on U.S.-Middle East relations.

But even Aramco could not withstand the tide that has given oil-producing States, particularly members of the Organisation of Petroleum Exporting Countries (OPEC), a greater direct stake in world oil production. Since the early 1970s oil companies have seen their producing concessions either nationalised outright or partially taken over by the State.

But the changing structure of the oil industry has not stopped there. Producing governments and their State oil corporations are controlling an increasing share of the international trade in crude and refined products. Government - to - government deals are becoming more frequent.

Again Saudi Arabia—the world's biggest oil exporter—provides a case in point. In 1978 the direct crude sales of Petromin, the Saudi national oil company, amounted to 550,000 barrels a day (b/d). By September, when Saudi output

Crude Oil Disposals Under Government Involvement (year-end 1979)

|              | m b/d | % of total exports |
|--------------|-------|--------------------|
| Iraq         | 2.1   | 60                 |
| Iran         | 1.1   | 40                 |
| Libya        | 0.5   | 30                 |
| Kuwait       | 0.2   | 10                 |
| Nigeria      | 0.4   | 20                 |
| Saudi Arabia | 0.5   | 9                  |

Source: Jochen Mohrfeld, International Energy Agency, Petroleum Economist, August, 1980, Page 330.

was 9.5m b/d, Petromin's direct sales had risen to over 2m b/d. Since then the amount has increased further as a result of the Kingdom's decision to raise output to between 10m and 10.5m b/d as a partial offset to the disruption in world supplies caused by the Iran-Iraq war.

It is not only the members of OPEC that have increased their State interest in production and trading. In Britain the British National Oil Corporation (BNOC) has been encouraged by both Labour and Conservative governments to play a major role in North Sea activities. As a result BNOC now claims to be the major North Sea oil producer. It is also the most important trader of North Sea oil, handling about two-thirds of the UK's output thanks to its equity interest, its access to royalty oil and its trading deals fixed by State participation arrangements.

These developments, which have disassociated the decision-making of producing countries from oil requirements in consuming countries, "essentially represents the disintegration of the oil industry's former vertical structure," reports Mr. Jochen Mohrfeld, an oil market analyst in the International Energy Agency. "The era when oil production was adjusted to oil demand, mainly by the consumer-country based private sector, has gone," he wrote in a recent edition of the Petroleum Economist.

● In 1970 some 94 per cent of the oil produced in non-communist countries was owned by private oil companies; 61 per cent of the total was in the hands of the seven major companies, the so-called "Seven Sisters"—Exxon, Royal Dutch/Shell, Gulf, Mobil, Standard Oil of California, Texaco and British Petroleum. According to Shell, by last year about 55 per cent of the ownership had been transferred to the governments of producing countries. The seven majors accounted for a quarter of the output with smaller private companies owning the remaining 20 per cent.

● At the time of the first energy crisis in 1973 major oil companies were selling in third party deals between 6m and 7m b/d of the 30m b/d available to them. This year, reports Mr. Mohrfeld, the majors will have traded less than 1m b/d of the 17.7m b/d available to them.

● Ten years ago State oil companies handled barely 1 per cent of OPEC's exports. By 1979 OPEC's national companies

were exporting about 5 per cent of their countries' externally traded oil. Last year their share had risen to 46 per cent. Now, according to Dr. Fadhl al-Chalabi, OPEC's deputy secretary general, the oil producers' State oil companies are handling over 12m b/d of crude and refined products, about half of the Organisation's exports.

Against this trend it was perhaps inevitable that governments of countries heavily dependent on oil imports should seek to become more involved in the international oil trade. In essence they felt uneasy about relying solely on the importing ability of the private companies in their midst. So government-to-government supply contracts are now on the increase. In some cases direct imports by State agencies or companies are being supplemented by diplomatic moves that indirectly promote crude oil trade by private companies.

Figures again provided by Mr. Mohrfeld show that in 1978 only 1m b/d of oil was traded by non-communist countries as a result of government-to-government involvement. Last year some 5.8m b/d moved as a result of such deals: 1.5m b/d were imported by Japan, 2.5m b/d went to Europe and 1.8m b/d were bought by less developed countries.

Iraq, a strong advocate of such sales, was until the war with Iran, the OPEC member selling the largest volumes on a government level. Libya, regarded as a pioneer in restructuring relations between oil companies and producing countries, and Iran have been others significantly involved in government contracts. (See accompanying table.)

Clearly there are political implications in these deals. As M. Nordine Ait - Laouassine, former executive vice-president of Sonatrach, Algeria's State oil

company, pointed out at the Second Oxford Energy Seminar in September: "It is, and always has been the case, that governments are more willing to trade with partners with whom they are in sympathy than with those whose aims and interests run counter to their own."

### Discretion

One recent example of a government - to - government arrangement with political strings attached is the contract signed between Saudi Arabia and Denmark. Petromin, as the Kingdom's agent, has won the right of "absolute discretion" to terminate the supply contract if the Danish Government in any way brings the Saudi Government into disrepute.

Within the oil industry Japan is usually nominated as the country which initiated the wave of direct sales between government agencies. The

Japanese Petroleum Development Corporation was created as a quasi-governmental body to co-ordinate and promote oil developments by Japanese companies. France, Brazil, Italy and Spain are other major oil-consuming nations that have become deeply involved in government deals. It is no coincidence that all of these countries are particularly nervous about future imports of oil.

Shell, in its recently published briefing paper "The Changing World of Oil Supply," points out that the main advantage generally attributed to government-to-government deals is that they increase the security of oil supplies in an uncertain world. "Paradoxically, this is not necessarily the case," says Shell.

The company points out, with some justification, that importing countries have lost much of

their insulation against political events because of the erosion of trading by non-political oil companies. "With the rapidly changing world political situation, and the many sensitivities involved, a number of such contracts have broken down."

Undoubtedly there has also been a reduction in the flexibility of the world oil market. Companies are now less able to switch a cargo from country A to country B. Government-to-government deals involve smaller quantities than the majors used to handle and, of course, they are tied to specific destinations.

As a result of all this, the oil companies maintain, extra storage and shipping facilities will be needed to provide a measure of flexibility. Shell reckons that the extra stocks needed to cover the new requirements would be at least 150m barrels, worth

well over \$5bn.

The international oil market is still changing. In present circumstances one can only conclude that the influence of State oil companies will grow. There are already signs that producing countries want to become more involved in downstream activities—in refinery and petrochemical operations. Politics will play an increasing role in determining the price and ultimate destination of Middle East oil exports.

To return to M. Ait-Laouassine's comments at Oxford: "The 'price of oil' will less and less be expressed in terms of cash, and more and more in terms of resource transfers, of technology as well as hardware. This non-commercial aspect of oil trade will inevitably lead to a further restructuring of the traditional supply channels than we have seen so far."

## Firmer plans to start downstream industry

### Petrochemicals

SUE CAMERON

PLANS TO develop a petrochemical industry in the Middle East have taken on a new impetus during the last two years—so much so that European producers are becoming seriously worried about the prospect of additional competition in their own markets.

The possibility that Middle Eastern countries would want to use their oil and gas as raw materials for making petrochemicals has been on the cards for some time. But chemical companies in the West believed there was little chance of such hopes being turned into reality for many years.

European producers knew that the oil and gas reserves of the Gulf States would give them a considerable cost advantage when it came to petrochemicals production. But it was always argued that this advantage would be more than cancelled out by the drawbacks attached to setting up a petrochemicals industry in the Middle East. Chief among the many

difficulties were:

- The shortage of native petrochemicals expertise in the Middle East;
- The lack of a domestic market in an area that is still far from being fully developed;
- The cost of transport to export markets;
- The difficulties of putting up petrochemical plants on green field sites;
- The problems of operating such plants efficiently once they were built.

It has been estimated that in 1974 it was more economic to make petrochemicals in Europe than in the countries of the Gulf—even though the vital oil and gas raw materials cost eight times more in Europe than in the Middle East.

But the revolution in Iran and the ensuing dramatic increase in world oil prices put an entirely different complexion on the whole picture. Suddenly the balance shifted so that the cost advantage of making petrochemicals in the Gulf was no longer outweighed by the problems of operating a chemical business in the region.

The Iranian revolution also highlighted and intensified the changing balance of power in the oil markets of the world. Hitherto the time had always

been called by the international oil companies which controlled supplies of crude. But today it is the producing countries themselves that increasingly govern oil supplies.

Moreover, many Middle East states have shown no hesitation in using their oil barrel power to "persuade" Western chemical companies to set up joint venture projects. The Western companies provide part of the cash plus the marketing and production expertise that the Gulf States lack. In return they receive a given amount of crude.

A considerable number of very big joint venture petrochemical projects have been agreed between Middle East countries and U.S. or European-based oil-chemical groups. Among them are:

- An agreement between the Shell group and the Saudi Basic Industries Corporation—SABIC—to build a \$3bn (£1.5bn) joint venture petrochemicals project at Jubail on Saudi Arabia's eastern coast. SABIC and Petten Arabian, a subsidiary of the U.S.-based Shell Oil, say the project will be built by 1984 and will come on stream a year later.

- An agreement between the Saudis and the U.S.-based

Mobil to build a \$2bn (£775m) petrochemicals complex at Yanbu on the Red Sea coast.

- A joint venture base chemicals deal between the Saudis and the U.S.-based Exxon group worth \$1.1bn.

- Plans for Saudi Arabia to construct a \$268m methanol plant in conjunction with a Japanese consortium headed by Mitsubishi.

- A joint project between Saudi Arabia and the Taiwan Fertiliser Company to build \$376m of ammonia and urea production capacity.

- An agreement between Qatar and the French-based CdF Chimie to build a basic petrochemicals plant and a plastics plant. The two plants are believed to be nearing completion.

- An agreement between Iran and a Japanese group to build a \$3.5bn petrochemicals plant at Bandar Khomeini on the Iranian Gulf coast. This project was 85 per cent completed before the overthrow of the Shah; work on it then stopped.

The halting of work on the Bandar Khomeini project pinpoints one of the difficulties of developing petrochemicals in the Middle East—the region is politically unstable, as the outbreak of war between Iraq and Iran last month once again

illustrated. But although wars, revolutions and coups may delay some of the petrochemical schemes that are being or have been planned, they will do no more than postpone them for a few years at most.

It seems inconceivable that the region should not eventually become a major area for petrochemicals production based on comparatively cheap and plentiful supplies of oil and gas feedstocks.

### Opportunity

Apart from anything else, it is in the interests of the Western oil and chemical companies to ensure that developments now being planned go ahead. Shell Oil U.S., for example, is expected to obtain about 200,000 barrels a day of crude from Saudi Arabia as part of its \$3bn petrochemical project deal. And Shell, like the other major oil companies, needs firm supplies of crude.

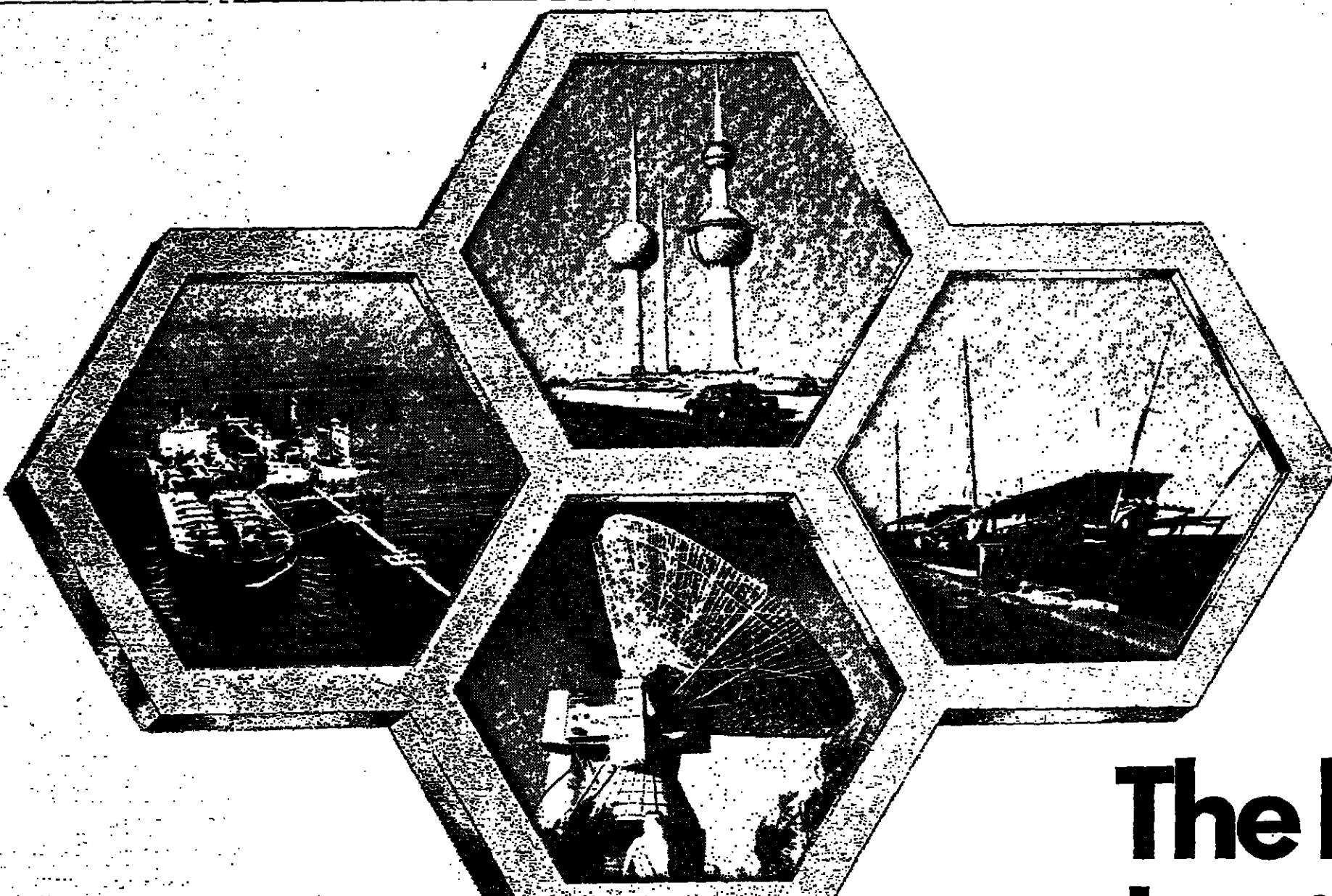
Joint venture deals, like the one agreed by Shell, also give Western companies some opportunity to control the impact of Gulf petrochemicals production on their own markets. Some of the Western companies hope to encourage what they euphemistically call "responsible marketing policies" by the

petrochemical producers of the Gulf.

The Gulf States will be able to use the gas ethane as a raw material for making ethylene—the so-called building block of the petrochemical industry to make a wide range of things from plastics to solvents—and this is a more economic and efficient feedstock than the oil-based naphtha. It is significant that most of Europe's producers rely on naphtha—and imported naphtha at that—for manufacturing their petrochemicals at present.

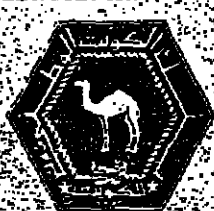
To date, countries like Saudi Arabia—and before the revolution, Iran—have led the Middle East in planning petrochemicals development. But other countries in the region are certain to bring more basic chemical schemes of their own to the drawing board during the next few years.

The result will be to turn the Middle East into a major centre of petrochemicals production. By the same token it is likely to push some European base chemical companies further downstream into the production of more specialised chemicals such as agrochemicals, pharmaceuticals and specialty plastics and intermediate products.



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## MIDDLE EAST OIL AND GAS IV

## Profitable arrangements despite the upheavals

Oil Services  
BY A CORRESPONDENT

THE WAR between Iran and Iraq presents the companies servicing the Middle East oil industry with an unhappy paradox. No company can derive much pleasure from hearing that 30 or even 50 years of its work has been destroyed. Yet the end of the quarrel is likely to produce a major work boom as the combatants struggle to restore their production and finances. The major oil companies now hold no direct stake in either country, which means that the national oil companies of both are dependent on outside contractors for most of their equipment and many specialist skills.

Since the first oil crisis in 1973/74 the nature of the industry in the Middle East has changed out of all recognition. From being owners of concessions which they developed and exploited largely as they saw fit, the oil majors have become customers on the one hand and service companies developing oil resources on the other. When the change first occurred it was widely viewed as disastrous for the oil companies. In fact it has been anything but that. One of Shell's managing directors noted recently that the company currently had more personnel working in the Middle East than when it owned the concessions.

Indications are that present arrangements are profitable and as direct involvement usually brings an entitlement to crude supplies the majors can now

look back on the upheavals of the mid-seventies with composure.

In personnel the service companies operating in the Middle East considerably outnumber the oil companies. This has come about in two phases. Immediately after World War II oil production started to rise rapidly and the increasing importance of the U.S. oil majors in its development brought with it their tradition of subcontracting to specialist companies. The second phase came with the growth of national oil companies which because of their lack of trained personnel were forced to rely on specialist subcontractors in every aspect of the industry.

## Intensity

Use of subcontractors and service companies varies from country to country depending on the intensity of development activity. Some generalisations can however be made. For example, most geophysical surveying is done by contractors.

Producing countries sometimes have several surveys and their interpretations done by different companies. Long gone are the days when only the oil companies had the experience and technology to prospect an area. Drilling is now dominated by contractors both onshore and offshore, though as in geophysical work the oil companies usually have a limited number of company-owned rigs and crews.

The range of services associated with production—such as cementing, perforating, wirelining, acidising and flow testing—are all activities

usually carried out by specialist companies. The latter are predominantly American and it is important to appreciate that although production in the Middle East is nearly three times that of the U.S., drilling activity is less than a tenth of the American level.

Currently there are around 3,500 rigs (800 more than in 1979) drilling for oil and gas onshore and offshore in the U.S. while in the whole Middle East there are less than 200. This big home market is enough to ensure market domination by the U.S. oil service companies for drilling contractors, drill-bit suppliers and all the other services that go with drilling a well.

One of the most important effects of developments in the North Sea has been to give European manufacturers and suppliers a home market base from which to break into the highly lucrative markets such as the Middle East. Design of oilfield layouts and exploitation systems are still dominated by the oil companies but the supply of equipments and materials is dominated by the service industries.

Although local fabrication capabilities are increasing throughout the Middle East, all valves, wellheads, BOPs and the like are manufactured in the U.S., Europe or Japan. Similar considerations apply to downstream activities like refining, petrochemicals, crude loading facilities and gas handling equipment.

Before the Iranian revolution and the current war it would not be an overstatement to say that everything was running the way of the service companies. The

ambitious plans of the producers could only be implemented with massive assistance from Western-dominated oil supply companies. The traditional oil companies' relationship with the producing States was such that the latter were keen to have either a second opinion or an alternative route to reliance on the oil companies. This alternative route can be summarised as building up their national oil companies, contracting in skills they have yet to acquire and using local companies wherever and whenever they had the necessary capabilities.

The construction boom across the Middle East has produced a large, mobile, semi-skilled workforce operating across the entire area. It consists of many nationalities, though it is predominantly Arab and/or Muslim, Palestinians, Syrians, Jordanians, Yemenis, Pakistanis and Indians are numerically the most important groups. When it comes to highly skilled technicians the area is less well supplied with most of the senior personnel coming from the U.S., Europe and Japan. At the intermediate level increasing numbers of technically trained Arabs are now available for work in the area, the first generation to receive modern Western technical education and now coming on to the job market.

Production levels in the Middle East were static or declining even before the present conflict. The fact that governments have predominantly stabilised or reduced production levels has not, however, reduced exploration and development work. The reason for this is that in addition to seeking the exact size and extent of their reserves, governments are keen to ensure the most efficient and effective development of a finite resource.

The biggest single project in the history of the Middle East is the current \$20bn Saudi gas-gathering scheme and associated with it the trans-Arabia pipeline and the refining and petrochemical complexes at Al Jubail and Yanbu. Although the enormity of the Saudi projects overshadow others in the area all the countries in the Middle East plan to collect and exploit their associated and non-associated gas reserves. Abu Dhabi is actively developing some of its smaller offshore oilfields while Qatar is planning the development of the massive Dome offshore gasfield.

Iraq before the war was the fastest expanding producer in the area and a major market for goods and services. Its future at the moment is clouded with uncertainty but the cost of the war must mean that it will try to restart oil exports as quickly as possible. For exactly the same reason Iran is likely to become a market for oil industry services even to restore relatively low levels of production.

Oman, whose production had been in decline, is linking in the reserves of the south of the country and recent drilling success means that production will rise. Some of the smaller emirates which currently have no oil or gas production are actively exploring in the hope of emulating their rich neighbours.

## Key areas

There were three key areas in the Middle East which have been used by servicing and contracting companies as bases. The facilities established in Saudi Arabia and the United Arab Emirates (predominantly Abu Dhabi) are still active but those in the third area, Iran, have had to be written off following the revolution. This loss has naturally made the companies more circumspect about investments in the area and

more and more companies are now holding the bulk of their stocks in Europe or the U.S. and flying them out as they are required. This route minimises the exposure in an area which has become demonstrably more unstable.

The upheavals in the area have prompted many questions about future developments. The eventual outcome of the Iran-Iraq war and its effects are currently unknown and quite unpredictable.

Service companies, like most others directly involved, divide into two camps. The optimists believe that the area's need for cash in the form of oil exports will force development with its dependence on Western skills and services. The pessimists on the other hand believe that a fundamental change has occurred and that future development will be more closely matched to local requirements. The extreme pessimists even argue that the concept of slow economic development, paralleled by slow development of oil and gas resources, will spread to the whole Middle East.

For the oil service companies the outcome will determine whether the area returns to the status of the number one area for expansion or becomes an important but slowly growing market.



An Aramco employee shows a drill bit to Saudi visitors at a rig site

## Refineries dragged into the list of war targets

## Security

PATRICK COCKBURN

IRAQ'S ATTACK on Iran was what everybody in the Gulf most feared. For the first time two major oil producers were at war and did not hesitate to attack each other's oil facilities. Within a week Iraqi shells were raining down on Iran's main refinery at Abadan. The Iranians replied in kind, jet bombers zeroing in on refineries, pumping stations and loading systems from Basra to Kirkuk.

Yet four weeks after the war began the results had not had the immediate, catastrophic effect which might have been predicted. Other Gulf producers decided to keep out of it. Having examined the various political alternatives open to their small and militarily vulnerable States, Saudi Arabia and the other decided, as they have so often done in the past, to do nothing.

In part the relative calm with which the news of war was received was a result of the traumas which oil producers and consumers had been through in the two years since strikes first crippled the Iranian oilfields in the last months of the Shah. Iranian crude exports had slumped to 700,000 barrels a day in April. Stocks in the West were high.

But the importance of the war on future views of the security of oilfields in the Middle East lies in the fact that oilfields are no longer sacrosanct. It had been argued that the economy of every Gulf State is so dependent on oil that nobody would wish to attack an enemy's oil production. A counter-attack was too easy.

## Support

In the early 1970s, for instance, and particularly in 1974/75 Iran and Iraq were on the point of war because of the Shah's support for the Iraqi Kurds. Iranian artillery provided tactical support for the rebels. Mr. Saddam Hussein, now President of Iraq, made it clear that while he might well lose a war against Iran he would still fight to the last round and if defeated he could take the Iranian oil facilities in Khuzestan province with him. It was noticeable that the Shah restrained the Kurds he backed from attacking the Iraqi oilfields around Kirkuk.

Other examples can be found. The Israelis did attack Syria's Banias refinery in 1973 and before then the Egyptians had lost their Sinai fields. But it was still a common joke in Syria that the safest place during an Israeli air raid was under Tapline. Oil, so popular wisdom went, was sacrosanct.

Oil was too important to be left to the generals. Immediately after the 1973-74 oil price rise, U.S. Secretary of State Dr. Henry Kissinger made hawkish noises about occupation of the Gulf oilfields, though further investigation revealed that the threat was largely rhetorical and that the one place where the U.S. had the capacity to intervene militarily, the Saudi fields, could be very badly damaged by the time they arrived.

The threat which currently worries the West most is not the medium-term absence of oil from Iran and Iraq, although this is clearly stiffening the price levels which the OPEC hawks were finding difficult to hold. Immediately after the war began eyes turned once again to the Strait of Hormuz.

The threat to the Strait has become something of a political cliché over the past two years. But it is no less potent for the fact that the problem has been argued over so endlessly. The Iranians can still, if driven to desperation, simply announce that they will try to stop or attack the next oil tanker passing through the Strait. It does not matter whether they have sufficient mines or artillery batteries to prevent all tankers getting past. The threat alone will increase tanker insurance to the point where the premium would become too high to carry.

Fortunately the worst moment in the war, the first week, passed without Iraq attacking the Iranian-held islands near the mouth of the Gulf. The U.S. was restrained in the aid it gave to Saudi Arabia. Everybody had too much to lose from a conflict in such a crucial area.

Washington was hopeful of the restraint shown by the Soviet Union in the first week of the war. Moscow already had alliances with Syria and Iraq, although a war of words continues between the Soviets and Tehran. It is difficult, however, to believe that the Iranians will be able to conduct a prolonged war, as they have sworn to do, and at the same time maintain a foreign policy of glorious isolation in which they spurn all possible allies.

How far, then, is there a real Soviet threat to the Gulf? The evidence for this is the invasion of Afghanistan at the beginning of the year and the suggestions that the Soviets will begin to run short of oil in the mid-1980s. This is slender evidence. Control of some wrecked oilfields is unlikely to attract the Soviets and Afghanistan is not a good staging post from which to attack through Iran. The road systems run north/south not east/west.

## Eagerness

For Arab rulers in the region Washington's claim that the Russian bear is about to march south to the waters of the Gulf has not won many friends. Local rulers are wary of Western powers showing undue eagerness to defend them, particularly since the West's need for Gulf oil is so much greater than the Soviet Union's.

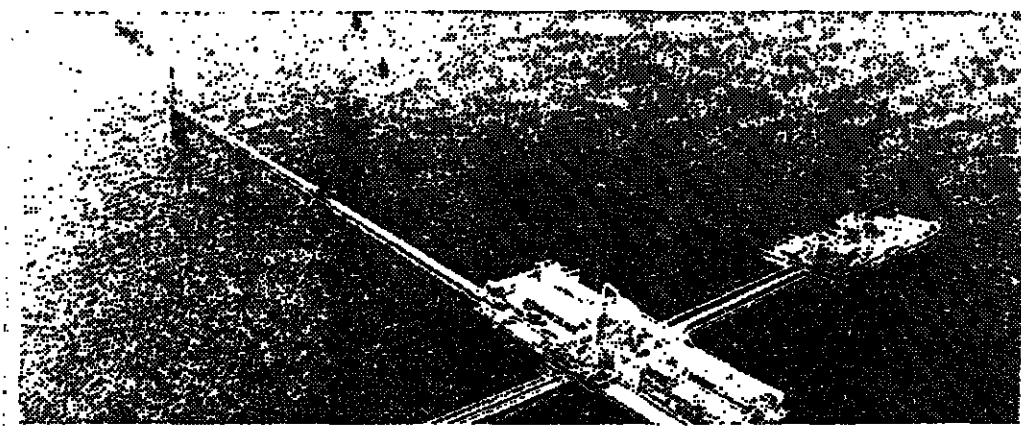
When President Carter announced his intention to defend the Gulf at the beginning of the year Kuwait and the other small oil producers began to get extremely worried. The problem for the oil producers is that with the exception of Iran and Iraq none of them can put into the field a considerable army. None can face aggression from outside with any confidence and none wishes to call in outside assistance. All the wealth in the

world does not solve this problem.

All the arms purchases which Saudi Arabia and Libya have made over the past decade are not enough to make up for a small population. Technical skills are too thinly spread to allow for independent air forces—not reliant on Western technicians—to operate. The U.S. air force has its own considerable problems in maintaining its aircraft.

The weakness of the Iranian armed forces in the fighting has been less the will or the capacity to fight of its armed forces but the weakness of its logistics. This is partly the result of purges but is probably equally true of the armies of other oil producers. Endless red tape, incompetence, corruption and too much equipment makes it extremely difficult for any army to obtain the supplies from its own reserves to fight a prolonged war.

During the Iran-Iraq war there is little the other Gulf producers can do except desperately try and avoid involvement. Difficult though their position is they can at least note with some satisfaction that internally the Gulf States have remained stable and the outbreaks of sectarian violence sometimes predicted in the Western media have not come to pass. The danger lies in external aggression, not internal subversion.



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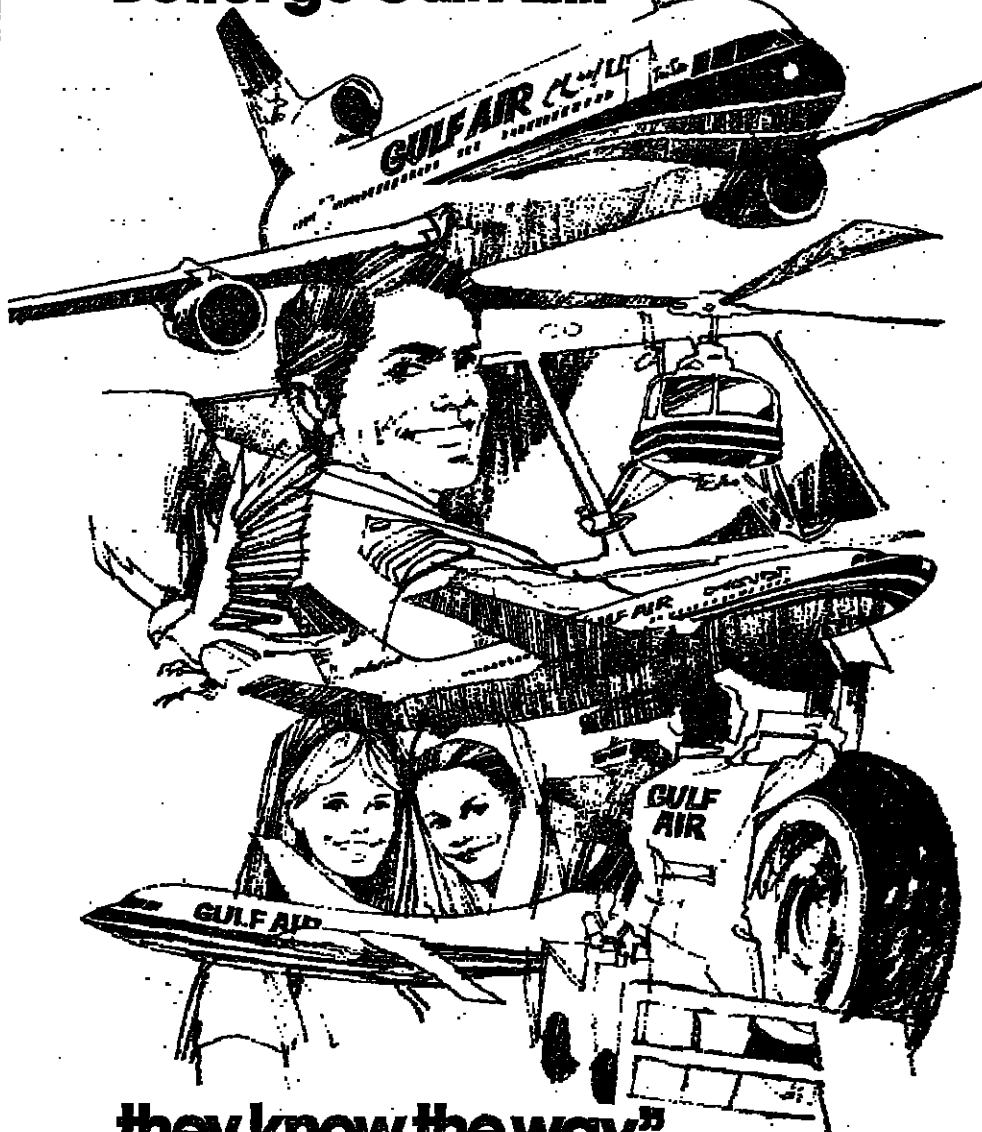
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## WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The Board meetings are mainly for the purpose of considering dividends and official indications are not always available whether dividends concerned are interim or final. The sub-divisions shown below are based mainly on last year's timetable.

**TODAY**  
COMPANY MEETINGS—  
Dunlop and Miley, Chairman of Commerce,  
75, Harborne Road, Birmingham, 12.00  
Estimate of the American's Hall,  
21, Colindale Avenue, EC, 12.00  
Ferry Pickering, Alton House, Newcastle  
Sutton, 12.00  
Marler Estates, Hyde Park Hotel, Knights-  
bridge, SW, 12.00  
Mills and Allen, Winchester House 100,  
Old Broad Street, EC, 12.00  
Saint Piran, Midland Hotel Peter Street,  
Manchester, 12.00  
**BOARD MEETINGS—**  
Rush & Tomkins  
Majestic Investments  
Lester Investments  
Grain Shipping  
Feno (P)  
Kopple  
**DIVIDEND & INTEREST PAYMENTS—**  
Acorn Securities Income 12.5p  
BET Omnibus Services 5.5p/1.925p  
Bank of Scotland 0.575p. Soc Pl. 2.5p  
British Vio 2.5p  
C.A. Carvenda Societa Financiera Pla-  
za, 25, Avenida de la Republica, 1005 0325-44  
Carlton Inds 4p  
Chitral  
Continental Hotels Corp. 45c  
Dickinson Rubber Corp. 3p  
Dowling and Mills 0.55p  
Family Inv. Tst. 10p  
Glenroy (W. and J.) 1.575p  
HAT 1p  
Holland and Lowlands Berhad 0.5875p  
Investment Tst. of Germany 4p  
Jersey (A) 8 P. (12) 1.00 4.375p  
Metal Clusters 2.2p  
North British Canadian Inv. 1.75p  
Odeon Transport and Trading 4.5p  
Parsons (UK) 1.5p  
Rural Organisation 1.5p  
Scottish Refractories Inds. 5.75p  
Trade Inds. 2.2p  
Trans-Oceanic Tst. 1.75p  
Treasury 12.5p 1980 7.5p  
Treasury 12.5p 1980 7.5p  
United States Deb. Corp. 2p  
Whitman Reed Angel 1.5p  
Whitman Reed Angel 1.5p  
**COMPANY MEETINGS—**  
Armstrong, Walcott Hotel,  
Aldwych, W. 12.00  
St. George's Properties, North Stafford  
Hotel, Stoke-on-Trent, 12.30  
**BOARD MEETINGS—**  
Fluor  
Allied London Properties  
Avenor (A)  
Marshall Inds.  
Safeguard Industrial Inv.  
Inches  
Amperex Inv. Tst.  
Bradford Property Tst.  
Clark (Clements)  
Continental and Industrial Tst.  
Polymer Intnl.  
Rupert & Co.  
St. George's Laundry  
Glenroy  
**DIVIDEND & INTEREST PAYMENTS—**  
Associated Book Publishers 2.5p  
B&O & INTEREST PAYMENTS  
Clifford's Barries and A. 1.25p. New  
1.75/2.875p  
Jameson's 2.25p  
Marler Estates 1p  
Widkin 1.5p  
Wills 2.5p  
**WEDNESDAY, NOVEMBER 5**  
**COMPANY MEETINGS—**  
Prest. Marland, Oakhill House, Milde-  
borough, Cambridgeshire, 4.30  
Zetters, 86-88, Clerkenwell Road, EC  
11.30  
**BOARD MEETINGS—**  
Fluor  
Beltway  
Beltway  
Carpenter-Nell  
Hill (Hill) Inv. Tst.  
London Tst.  
Municipal Estates  
Sainsbury U.J.  
U.J.  
Warner Holdings  
**DIVIDEND & INTEREST PAYMENTS—**  
Albany Inv. Tst. 0.6p  
Bowler 4.25p  
Lime House Publishing 0.6p  
London and European 0.7p  
London and St. Lawrence Inv. 0.55p  
Neill Jameson  
Scottish Northern Inv. Tst. 1.2p  
Share and Fisher 0.5p  
**THURSDAY, NOVEMBER 6**  
**COMPANY MEETINGS—**  
Celtic Haven, The Odeon Centre, Pier  
Head, 12.00  
Sawell European Inv. 20, Birch Lane,  
EC, 12.30  
Inv. Tst. 5, Carr St. Swansea, 10.15  
Westminster and Country Prop. Win-  
chester House, 21, Old Broad Street,  
EC, 12.00  
**BOARD MEETINGS—**  
Fluor  
Mass Engineering  
Samuel Properties  
Sainsbury U.J.  
Wells  
**DIVIDEND & INTEREST PAYMENTS—**  
Airflow Streamlines  
B&O (Hill)  
Continental Television  
Guardian Inv. Tst.  
Hambro Inv. Tst.  
Heddon Sims and Coggins  
Heddon Sims and Coggins  
Odeon Printing  
Sawell European Inv. Tst.  
Whitman Reed Angel 1.5p  
**DIVIDEND & INTEREST PAYMENTS—**  
Amalgamated Metal Corp. 5p  
Avenor Property Tst. 1.5p  
Assoc. British Foods 3p

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October 1980

# Rand Mines Properties Limited

(Incorporated in the Republic of South Africa)  
A Member of the Barlow Rand Group

## 1. CONSOLIDATED PROFIT AND DIVIDEND

The audited consolidated results of the group for year ended 30 September 1980, with the 1979 comparative figures, were as follows:

|   | 1980       | 1979       |
|---|------------|------------|
| Turnover  | 31 888 000 | 21 398 000 |
| Profit before taxation  | 9 395 000  | 4 899 000  |
| Taxation (Note 1)   | 2 003 000  | 627 800    |
| Profit for the year after taxation  | 6 392 000  | 4 271 000  |
| Less: Profit attributable to outside shareholders in subsidiary companies           | 33 000     | 21 000     |
| Consolidated profit after taxation  | 6 259 000  | 4 250 000  |
| Less: Dividend No. 13 of 24 cents per share (1979-17 cents per share)               | 2 977 000  | 2 109 000  |
| Retained surplus for the year   | 3 282 000  | 2 141 000  |
| Number of shares upon which earnings per share is based                             | 12 403 337 | 12 403 337 |
| Earnings per share based on consolidated profit after taxation                      | 50.5 cents | 34.3 cents |
| Not included in the above results are the following:                                |            |            |
| Surplus on sale of investments and properties held as fixed assets (Note 2)         | 4 869 000  | —          |
| Timber rights written off (Note 3)  | (750 000)  | —          |
| Cost of control of acquiring outstanding shares in a subsidiary company written off | —          | (89 000)   |

## Notes:

- The higher effective rate of taxation as compared to the 1979 financial year is primarily attributable to a lower level of non-taxable income being received.
- During the year the group has disposed of its investments in Midsteel (Proprietary) Limited, Barrow Properties (Proprietary) Limited, Transvaal Gold Mining Estates Limited and Northcliff Ert Thirty-Two (Proprietary) Limited for a total consideration of R8 044 000 of which R5 256 000 has been received in cash and the balance is repayable over three years. The surplus on disposal of these investments amounted to R4 783 000. In addition Thesen and Company (Proprietary) Limited has sold certain properties held as fixed assets for R272 000 in cash, which is R186 000 in excess of book value. The total surplus on the sale of the above assets will be recorded as an extraordinary item in the annual financial statements.
- The balance of the Thesen timber rights valued at R750 000 has been written off as a prior year adjustment, which is a change in the company's accounting policy.
- The annual financial statements will be mailed to shareholders on or about 24 November 1980.

## 2. DIVIDEND DECLARATION

Notice is hereby given that dividend number 13 of 24 cents per share has been declared payable to shareholders registered in the share register of the company at the close of business on 21 November 1980.

The transfer books and registers of members of the company in Johannesburg and the United Kingdom will be closed from 22 November to 30 November 1980, both days inclusive. Dividend warrants will be posted on or about 12 January 1981 to shareholders at their registered addresses or in accordance with their written instructions received up to and including 21 November 1980.

The dividend is declared in the currency of the Republic of South Africa. The rate of exchange at which the dividend will be converted into United Kingdom currency for payment of the dividend from the office of the United Kingdom Transfer Secretaries will be the telegraphic transfer rate of exchange between Johannesburg and London ruling on the first business day after 31 December 1980.

In terms of the South African Income Tax Act 1962, as amended, non-resident shareholders' tax of 15 per cent has been imposed on dividends payable to:

- persons other than companies, not ordinarily resident nor carrying on business in South Africa, and
- companies which are not South African companies and are not carrying on business in the Republic.

and the company will accordingly deduct the tax from dividends payable to shareholders whose addresses in the share register are outside South Africa.

## 3. SAND RETREATMENT

Further to the announcement contained in the company's interim report to members published on 7 May 1980, we advise that the retreatment of material on the Crown Mines property will be conducted by a newly formed company named Rand Mines Milling and Mining Company Limited, which is a wholly owned subsidiary of Crown Mines Limited.

The new company will be recognised as a post-1966 gold mine for income tax purposes. Capital allowances granted to post-1973 gold mines will also apply.

An additional 10 million tons of treatable material has been identified on the Crown Mines property bringing the total tonnage to be retreated to approximately 60 million.

The capital expenditure required to establish the optimum size operation, estimated at R40 million at May 1980 prices, will be financed from internal cash resources and from arranged borrowings of R40 million.

It is estimated that commissioning of the plant will take place in the financial year ending 30 September, 1982 and that full capacity operation will be achieved during the 1983 financial year.

For and on behalf of the board

D. T. WATT  
A. B. HALL  
J. R. FORBES

Transfer Secretaries:  
Rand Registrars LimitedSecond Floor  
Devonshire House  
49 Jorissen Street  
Braamfontein

(P.O. Box 31719, Braamfontein 2017)

31 October 1980

Registered Office:

Off Main Reef Road,  
Crown Mines, Johannesburg 2092  
(P.O. Box 27, Crown Mines 2025)United Kingdom Transfer Secretaries:  
Charter Consolidated Limited  
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Room F.1, The Multiple Sclerosis Society of G.B. and N.I.,  
286 Munster Road, Fulham SW6 6BE.

## Herbert tools plant sold

WHITE Consolidated Industries of the U.S. has formally completed its purchase of the Mackadown Lane, Birmingham, machine tool manufacturing complex from Alfred Herbert. The company is now trading as White-BSA Tools Limited.

W.C.I.—which earned \$82.9m in sales of \$2bn last year—took its first financial interest in the machine tool industry in 1964.

After a number of major acquisitions it has emerged among the largest American manufacturers of machine tools.

## MSC 'should pay for training'

THE Engineering Industry Training Board wants the Manpower Services Commission to continue paying the operating costs—mainly salaries—of each industry's ITB.

It opposes the recommendation in the MSC's review of the Employment and Training Act 1973 that industries should pay the costs after a brief transitional period. But the board says if the Government accepts the recommendation then the transitional period should be extended.

## Canberra force to be reduced

THE Ministry of Defence announced yesterday that it had decided to reduce the number of Canberra aircraft in service with the RAF.

Two photographic and reconnaissance squadrons based at RAF Wyton will be disbanded and other squadrons reduced in number and amalgamated.

## Tax refunds

THE Value Added Tax (Repayment to Community Traders) Regulations 1980 will come into operation on January 1, subject to approval by the House of Commons. They provide for the refund of VAT incurred by registered taxable people in EEC member states other than those in which they are registered.

## VAT leaflet

CUSTOMS and Excise has issued VAT leaflet 727/4/80, which explains the special procedure available to pharmacists using a VAT retail scheme described in Customs Notice No. 727.



## Year of Consolidation

It was resolved at the Annual General Meeting of Norsk Hydro a.s. held in Oslo on October 31, 1980 to pay a dividend of 12 per cent on both ordinary and preference shares.

It was further resolved that with effect from January 1st, 1981 the company's financial year shall commence the first of January and end on December 31st so as to be concurrent with the calendar year.

The following are key points of the report of the Directors for the financial year ended June 30, 1980.

## Financial Results

Total Group sales in the 1979/80 financial year were Nkr. 111 billion (1 billion = 1,000 million), 55 per cent higher than the preceding year. The increase was due first and foremost to the marked rise in prices for oil and oil products during the year but the growth in the volume of oil and gas produced from Ekofisk and Frigg was also a significant factor. During the year both these fields reached what is expected to be the peak level of production.

The most important of the company's energy-based industrial products such as light metals and fertilizers also obtained higher prices on international markets.

The Netherlands/Belgian fertilizer company NSM contributed rather more than one billion kroner to the increase in turnover.

Depreciation rose from Nkr. 1,174 million in the previous year to Nkr. 1,604 million for 1979/80. The operating profit after depreciation increased from Nkr. 1,116 million to Nkr. 2,461 million this year.

Net financial costs increased from Nkr. 749 million to Nkr. 905 million and profit before taxes and adjustments was Nkr. 1,467 million for the year compared with Nkr. 339 million the year before.

Taxation has risen to Nkr. 444 million this year, an increase of Nkr. 368 million compared with the preceding year. After taxes, before year-end adjustments, the net profit for 1979/80 was Nkr. 1,114 million compared with Nkr. 291 million last year.

## Operations 1979/80

From the spring of 1979 onwards prices and marketing conditions for our main products improved rapidly a trend which continued through most of the 1979/80 financial year.

The unstable world political situation, not least in Iran, contributed to this trend, which in many respects recalls what happened in connection with the 1974 oil crisis. As a result of the accelerated demand and the build up of customers' inventories, the market reacted during the spring of 1980, with reduced demand and for many products also a tendency towards falling prices. This was particularly marked in the USA, but towards the end of the financial year the trend also became apparent in Western Europe.

## Nitrogen

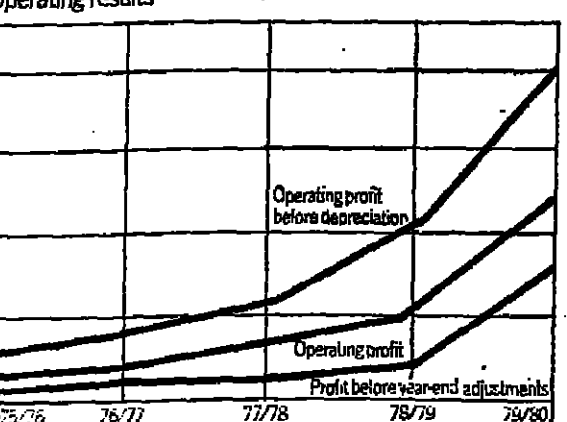
As a whole, the financial result for the company's Norwegian fertilizer operations was approximately in line with that for the previous year. The most important event on the fertilizer sector was the purchase of the Netherlands/Belgian fertilizer company NSM. This took place in the autumn of 1979, and in its first financial year as a Hydro-owned company NSM achieved good financial results. The purchase of NSM has substantially strengthened Norsk Hydro's position as a large international fertilizer producer, and has made Norsk Hydro the biggest single exporter of urea, the most important fertilizer product in international markets.

## Petroleum

Of the company's nine divisions, the Petroleum Division was by far the largest contributor to the years profit. Both the Ekofisk area and the Frigg field have now reached peak production of oil and gas, and this fact, together with the steep price rises for crude oil and oil products already mentioned, is the main reason why the Hydro Group's profit was significantly better than was anticipated at the beginning of the financial year.

It is very encouraging that the extensive exploration in which the company has taken part over the last year has yielded promising results. There is reason to expect that block 34/10, where Hydro has nine per cent, will be developed commercially in the course of the current financial year. On several other concessions where the company is a partner hydrocarbons

## Operating results



The profit on the sale of Rahnor in 1975/76 is not included in the figures.

## Petrochemicals

Market conditions for the company's petrochemical products continued to improve during the financial year up to the spring of 1980. There was a substantial rise in prices for the products of the Bamble plants and demand was considerably greater than in the previous year. In addition, supplies of raw material from Teesside have been stable since the autumn of 1979. Altogether this meant that the Bamble plants achieved a considerably better financial result than in 1978/79, and also somewhat better than was expected at the beginning of the year. In spite of these relatively favourable conditions their heavy financial costs were still far from fully covered.

Towards the end of the financial year the weakening of the international economic situation led to a downturn in the market, with falling prices and a fresh drop in demand.

## Light metals

Market conditions for aluminium were good, and prices for both primary metal and semi-fabricated products rose. The financial result was therefore better than for the preceding year, in spite of some production problems in the reduction plant at Karmøy.

For some time the company has had plans ready for expanding the reduction capacity at Karmøy by about 50,000 tonnes a year. It was decided in September 1980 to go ahead with the Karmøy project. The full cost of the expansion is estimated at around one billion kroner, and it can be ready for production in 1982.

Magnesium sales remained at about the 1978/79 level. The market was stable throughout the year, but the financial result was not completely satisfactory. The main reasons for this were a substantial cost increase and heavy depreciation, a result of the extensive investments which have been made in our magnesium facilities at Porsgrunn in recent years. The new production equipment has not yet reached the planned capacity.

## Finance

Investments in 1979/80 were approximately Nkr. 15 billion, compared with Nkr. 11 billion the year before. The increase of Nkr. 500 million is less than the Nkr. 850 million paid for the NSM shares which were purchased in September 1979. This transaction was financed by drawing on existing bank credits abroad.

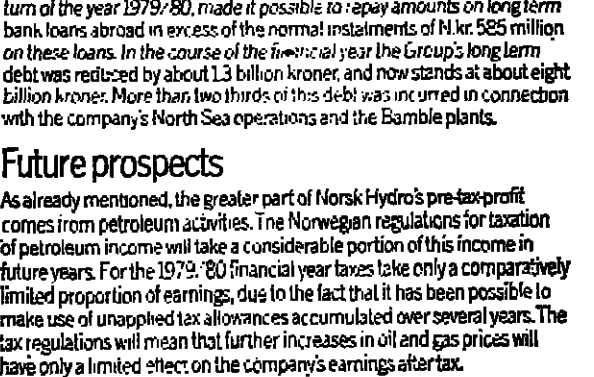
On the whole the 1979/80 financial year was one of consolidation for the company.

The increased cash flow, together with the approximately 420 million kroner resulting from the increase in the company's share capital at the turn of the year 1979/80, made it possible to repay amounts on long term bank loans abroad in excess of the normal instalments of Nkr. 525 million on these loans. In the course of the financial year the Group's long term debt was reduced by about 1.3 billion kroner, and now stands at about eight billion kroner. More than two thirds of the debt was incurred in connection with the company's North Sea operations and the Bamble plants.

## Future prospects

As already mentioned, the greater part of Norsk Hydro's pre-tax profit comes from petroleum activities. The Norwegian regulations for taxation of petroleum income will take a considerable portion of this income in future years. For the 1979/80 financial year taxes take only a comparatively limited proportion of earnings, due to the fact that it has been possible to make use of unapplied tax allowances accumulated over several years. The tax regulations will mean that further increases in oil and gas prices will have only a limited effect on the company's earnings after tax.

## Norsk Hydro's share of oil and gas production



Copies of the Annual Report can be obtained from:

Norsk Hydro (U.K.) Limited, Concord House, The Centre,  
High Street, Feltham, Middlesex.

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**FINANCE, LAND—Continued**

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